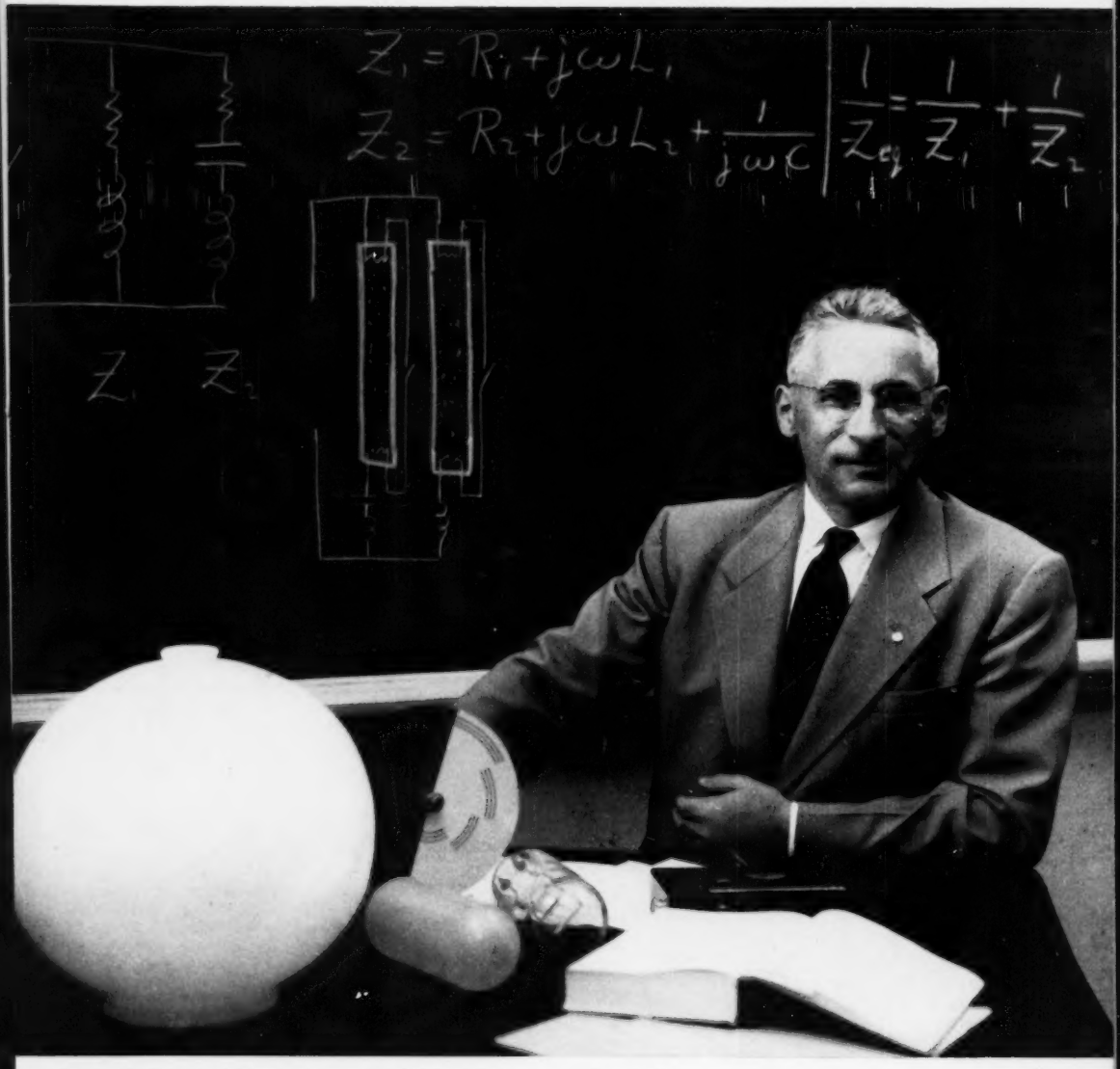
AUGUST 4, 1952 NEWS ISSUE

Electrical World

Price 35 Cents A McGRAW-HILL PUBLICATION



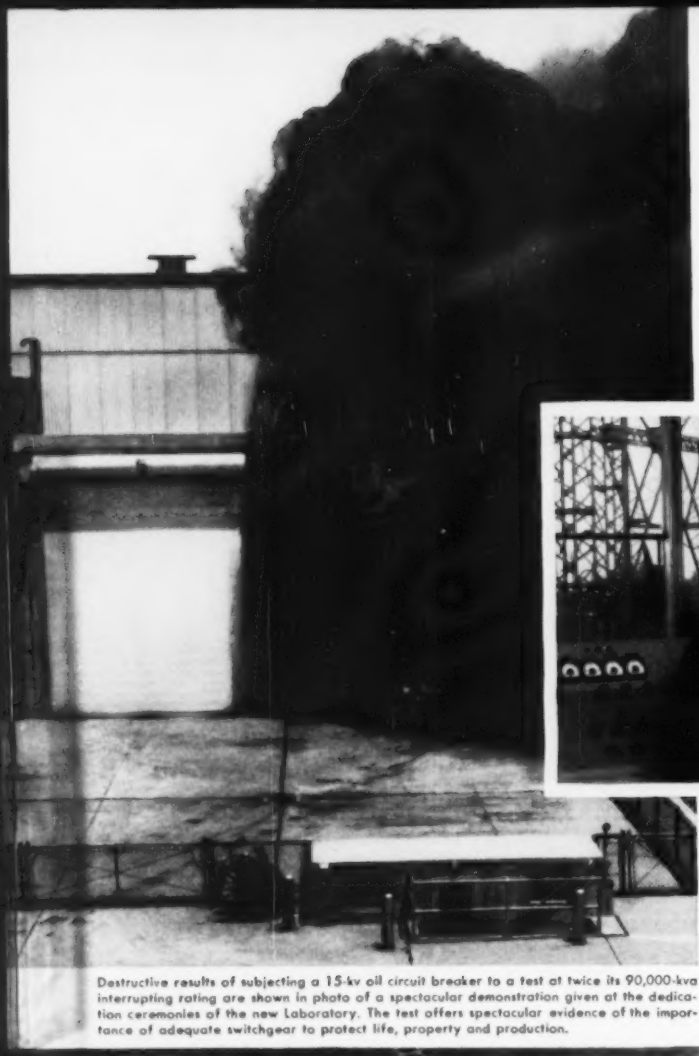
Everett M. Strong of Cornell is new president of IES . . . Page 29

Take a Company Course in Power—or Charm . . . Page 16

Steel Shortage Will Last for Months . . . Page 50

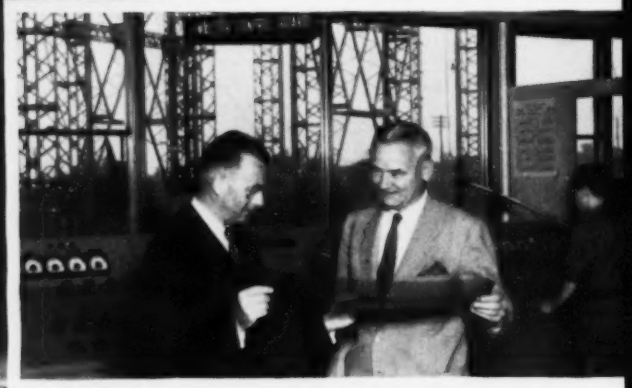
15 million kva short circuits

to improve tomorrow's power equipment



Destructive results of subjecting a 15-kv oil circuit breaker to a test at twice its 90,000-kva interrupting rating are shown in photo of a spectacular demonstration given at the dedication ceremonies of the new Laboratory. The test offers spectacular evidence of the importance of adequate switchgear to protect life, property and production.

Below: G. E. Burens, Gen. Manager, Switchgear and Control Div., and V. L. Cox, Manager, Engineering, review test data in the control room, G-E Switchgear Laboratory.



View of the new G-E Switchgear Development Laboratory shows its modern layout and gives some idea of complete facilities available. Designs for circuit breakers having interrupting ratings well in excess of 15,000,000 kva at voltages up to 440 kv can be thoroughly proof-tested at this new laboratory — largest and best-equipped facility of its kind in the world.

New Switchgear Development Laboratory to help design higher capacity apparatus

The tremendous blocks of power now handled by many systems and the enormously greater power flow predicted for tomorrow are focussing more attention on the importance of completely dependable switchgear.

In the recently completed, $10,000,000 Switchgear Development Laboratory at Philadelphia, G-E engineers now have a high power "fact-finder" that will speed the development of switchgear capable of handling any of tomorrow's loads that may now be anticipated.

Multimillion kva short circuit currents enable circuit breakers and other equipment to be subjected to extreme power surges—even tested to destruction. Precise studies are being made of the effects of over-voltage, recovery voltage, arcing time, reclosing time, capacitance current, out-of-phase condition, repetitive switching duty and other factors affecting performance.

The results will be reflected in improved equipment and knowledge from which the entire electrical industry will benefit. General Electric Company, Schenectady 5, N. Y.

XII-195

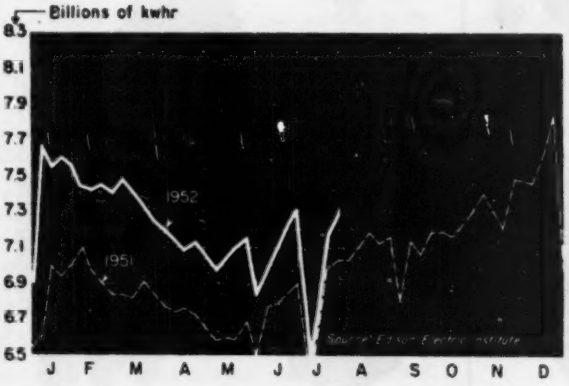
MORE POWER TO AMERICA

GENERAL ELECTRIC

VOLUME 138, NO. 5

August 4, 1952

Electrical World



Output Week Ended July 26—7,328,231,000 Kwhr

Per Cent Change From Previous Year

	Total US	New Eng.	Mid. Atlan.	Cent. Ind.	West Cent.	South-east	South Cent.	Rocky Mount.	Pacific NW	Pacific SW
July 26	+4.6	+6.0	+3.6	−4.2	+4.1	+15.4	+10.9	+9.8	+3.1	+2.9
July 19	+3.0	+4.9	+1.2	−4.4	+4.2	+10.7	+9.5	+4.8	+2.1	+3.2
July 12	+3.7	+10.5	−0.2	−2.6	+5.3	+9.4	+13.6	+3.8	+3.9	+3.3

Electric Power Statistics

		Latest Month	Preceding Month	Year Ago
Peak Load (Million Kw)	Apr.	64.8*	66.5	60.4
Capacity (Million Kw)	May	77.01	76.74	71.35
Production (Billion Kwhr)	May	31.82	31.51	29.87
Hydro		9.69	9.96	8.54
Fuel		22.13	21.55	21.33
Fuel Consumption				
Coal (Million Tons)	May	8.01	8.05	7.99
Oil (Million Barrels)		3.72	4.20	4.51
Gas (Billion Cu Ft)		76.99	66.50	70.57
Sales (Billion Kwhr)	May	27.94	28.33	26.35
Residential		7.52	7.91	6.68
Commercial		4.74	4.74	4.34
Industrial		13.83	13.85	13.42
Other		1.86	1.83	1.90
Net Income Class A & B Companies ($ Million)	May	68.24	75.82	60.80
Estimated Dec. 52 Peak (Million Kw)	Apr.	80.3	80.4	78.7
Kwhr per Residential Customer (12 Month Average)	Apr.	2,066	2,053	1,898
Revenue per Kwhr Residential Service (12 Month Average)	Apr.	2.79¢	2.79¢	2.85¢
Canadian Production (Billion Kwhr)	May	5.33	5.03	5.13

Business Statistics

FRB Industrial Production Index†††	June	203*	215	223
Gross National Product Annual Rate ($ Billion)	1stQtr.	339.0	334.6	319.5
E. W. 5 Industry Production Index	June	96.9*	116.0	123.2
ENR Construction Cost Index††	July	119.6	117.8	113.7
BLS Consumer's Price Index	May	189.0	188.7	185.4
NEMA Insulation Materials, Sales Index†	May	517	545	614
NEMA Electric Appliance Sales Index†	May	219	221	296
NEMA Household Refrig. Sales Index†	May	132	133	183

* Estimated. † 1936=100 †† 1949=100 ††† 1937-39=100 (Unadjusted)

THIS WEEK

The Electrical Week 5
In the Industry 10
Technical Notes 10
News About People 29
Meetings 35
Sales and Service 38
Industrial Relations 40
Financial 42
Manufacturers and Markets 46
Electrical Business Outlook 50

RALPH H FLYNN, Publisher
FISCHER BLACK, Editor
DANIEL T BRAYMER, Managing Editor

A E KNOWLTON.....Senior Associate Editor
FRANK R INNES.....Associate Editor
ROBERT C BLATT.....Associate Editor
KENNETH K KOST.....Associate Editor
HERBERT FRANKEL.....Associate Editor
DALLAS MALLARD.....Art Director
ANN L ADAMS.....Production Editor
EDWARD ALLEN.....Midwestern Editor
HOWARD S KNOWLTON New England Editor
RUE M SHOOP.....Middle Eastern Editor
FRANCIS J KOVALCIK.....Western Editor
JOHN F WICKLEIN.....News Editor
JEANNE BERNHARDT.Assistant News Editor
ARY MOSSIMAN.....Statistician
G B BRYANT, JR., Mgr Washington Bureau
JESSE MOCK.....Washington Correspondent

ECONOMICS DEPARTMENT
Dexter M Keezer, Director; Robert P Ulin

WORLD NEWS BUREAU
Russell F Anderson, Editor; London, Paris, Frankfort, Moscow, Tokyo, Bombay, Melbourne, Rio de Janeiro, Buenos Aires.

DOMESTIC NEWS SERVICE
Atlanta, Chicago, Cleveland, Detroit, San Francisco, Houston. Correspondents in 45 principal cities

ADVERTISING STAFF
District Managers E F Coffey, New York; N V Palmer, Boston; F P Coyle, Philadelphia M S Kearney, Cleveland; E S Chapin, Detroit; W H Meneilley, Chicago; J T Schaefer, St. Louis

Electrical World • Vol 138, No 5 August 4, 1952
Member ABC and ABP

Published weekly by McGraw-Hill Publishing Company, Inc., James H. McGraw (1860-1948), Founder. Publication Office, 99-129 North Broadway, Albany 1, N. Y.

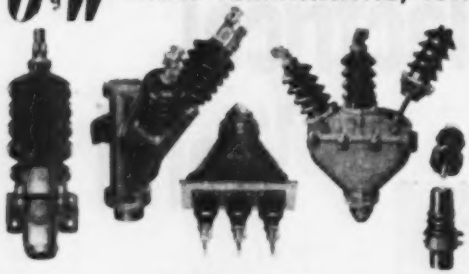
Executive, Editorial and Advertising Office: McGraw-Hill Building, 330 W. 42nd St., New York 36, N. Y. Curtis W. McGraw, President; Willard Chevalier, Executive Vice-President; Joseph A. Gerardi, Vice-President and Treasurer; John J. Cooke, Secretary; Paul Montgomery, Senior Vice-President, Publications Division; Ralph B. Smith, Vice President and Editorial Director; Nelson Bond, Vice-President and Director of Advertising; J. E. Blackburn, Jr., Vice-President and Director of Circulation.

Subscriptions: Address correspondence to Electrical World—Subscription Service, 99-129 North Broadway, Albany 1, N. Y. or 330 W. 42nd St., New York 36, N. Y. Allow one month for change of address.

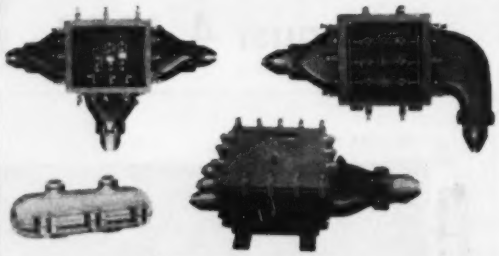
Subscriptions are accepted only from executive, supervisory, and engineering personnel in electric utilities, manufacturing companies, and related fields. Position and company connection must be indicated on subscription orders.

Single copies 25¢. For the United States and possessions $4 a year, $5 for two years, $13 for three years. Canada, $7 for one year, $11 for two years, $14 for three years. (Canadian money, at par.) Other Western Hemisphere, $15 for one year, $25 for two years, $30 for three years. All other countries $25 for one year, $40 for two years, $50 for three years. Entered as second class matter, November 16, 1936, at the Post Office at Albany, N. Y., under the Act of March 3, 1879. Printed in USA. Copyright 1952, by McGraw-Hill Publishing Company, Inc. Permission required to reproduce any of contents.

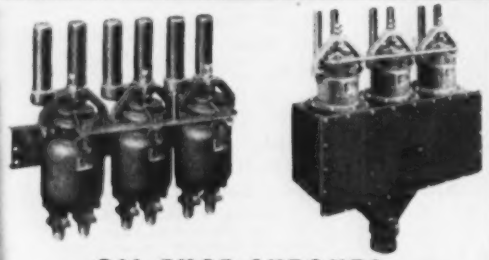
G&W CABLE TERMINATING, CONNECTING, FUSING, SWITCHING DEVICES



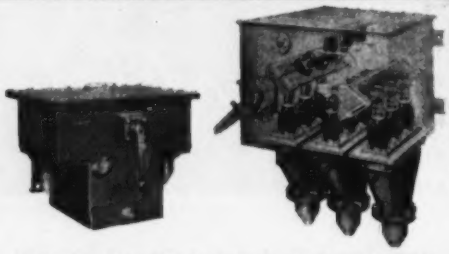
POTHEADS



CABLE BOXES



OIL FUSE CUTOUTS



LOAD BREAK OIL SWITCHES

SPLICING KITS

G & W cable accessories have an established reputation in the electric distribution field. Their long standing acceptance is based on practical designs, good workmanship and quality materials. Standardized unit parts permit economical assemblies for the most exacting requirements. Our main office and our representatives are ready and able to give you courteous and efficient service.

G&W Electric Specialty Co.
7780 Dante Avenue • Chicago 19, Illinois

G&W REPRESENTATIVES—experienced engineers ready to help you select and apply G & W equipment.

ALBANY 7, N. Y.
Carse Electric Corp.
100 State St.

ATLANTA 3, GA.
E. A. Thornwell, Inc.
217 Whitehall St., S. W.

BIRMINGHAM 3, ALA.
Walter E. Thompson Co.
447 American Life Bldg.

BOSTON 16, MASS.
E. G. Norton
131 Clarendon St.

BUFFALO, N. Y. (near)
Cooper-Morgan, Inc.
Box 152, Hamburg, N. Y.

CHARLOTTE 2, N. C.
Purser & London, Inc.
816 Independence Bldg.

CHICAGO, ILL.
J. M. Livingston (Ill. & Ind.)
30 N. La Salle St.

Kirby D. Patten (Chicago-Gary)
Rm. 1009, 111 W. Monroe

CINCINNATI 2, OHIO
L. J. Gregory
505 Peoples Bank Bldg.

CLEVELAND 14, OHIO
The Harrington-Fishel Co.
Engineers Bldg.

DALLAS 8, TEXAS
Elgin B. Robertson, Inc.
1239 Plowman St.

DENVER 2, COLO.
Mountain States Mch y Co.
1526 Blake St.

DES MOINES 12, IOWA
Chas. L. Ward Co.
c/o G. W. Swallow
5707 Waterbury Circle

DETROIT 2, MICH.
Braisted & Bair
744 New Center Bldg.

EL PASO, TEXAS
Frank W. Garman
Box 223 (1701 Texas St.)

HOUSTON 4, TEXAS
Elgin B. Robertson Co.
4101 San Jacinto St.

JACKSONVILLE 7, FLA.
Robert P. Smith Co.
P. O. Box 5085

KANSAS CITY 8, MO.
Chas. L. Ward Co.
3122 Roanoke Rd.

KNOXVILLE 1, TENN.
Claude E. Fox
P. O. Box 95

LITTLE ROCK, ARK.
Joe D. Williams
203 E. Markham St.

LOS ANGELES 14, CALIF.
R. E. Cunningham & Son
701 Pacific Mutual Bldg.

MEMPHIS 3, TENN.
L. B. Rosebrough
166 Monroe Ave.

MIAMI 32, FLA.
Robert P. Smith Co.
C. M. Converse, Assoc.
908 Langford Bldg.

MINNEAPOLIS 2, MINN.
Pinkney & Hine
552 Plymouth Bldg.

NEW ORLEANS 13, LA.
Electron Engineering Co.
1050 Constance St.

NEW YORK 7, N. Y.
L. V. Jochum
Rm. 1764, 50 Church St.

OKLAHOMA CITY 14, OKLA.
Chas. L. Ward Co.
P. O. Box 8293

PHILADELPHIA 4, PA.
The Bradley Co.
3341 Arch St.

PITTSBURGH 22, PA.
Muller, Harper & Assoc.
First Nat. Bank Bldg.

ROCHESTER 4, N. Y.
Rittenhouse & McGuire Co.
311 Alexander St.

SALT LAKE CITY 1, UTAH
Riter Engineering Co.
Kearns Bldg.

SAN FRANCISCO 5, CALIF.
C. E. Ingalls & Sons
541 Monadnock Bldg.

SEATTLE 4, WASH.
W. R. Hendrey Co.
Smith Tower Bldg.

ST. LOUIS 1, MO.
J. P. Lane
456 Paul Brown Bldg.

SYRACUSE 2, N. Y.
Naylor Electric Co.
317 State Tower Bldg.

WASHINGTON 6, D. C.
The Bradley Co.
1902 L St., N. W.

CARACAS, VENEZUELA
John J. Carroll
Aptdo. Postal 3145

MEXICO, D. F.
Gorman y Castro, S.A.
Gante 11—202

SAN JUAN 20, P. R.
Jose R. Mora
P. O. Box 4131

CANADA
Powerlite Devices, Ltd.
1870 Davenport Rd.
Toronto 9, Ont.

Powerlite Devices, Ltd.
807 Keefer Bldg.
Montreal 25, Que.

THE ELECTRICAL WEEK

Featured in This Issue

The Democrats have picked a power moderate (p 6) . . . Power through cooperation between government and industry is the theme of the electricity section of the Paley Commission Report (p 8) . . . You can take a Commonwealth Edison course in most anything (p 16) . . . Engineers of Kansas City Power & Light used the wind to help move a terminal tower (p 22) . . . Connecticut Light & Power has a new operational headquarters at Berlin, Conn. (p 32) . . . "Hot Wires," an adequate wiring show, is doing a useful job for Ohio Edison Co. (p 38) . . . SEC stirs a storm with a proposed rule change (p 42) . . . Strike over; steel scarce (p 50).

• • •

Latest from Washington—Interior Secretary Chapman is back from Democratic convention apparently pleased as pie over nomination of Governor Stevenson. Chapman is only cabinet member to wangle a two-hour interview with Stevenson during convention week. Also back in town from the convention are Federal Power Commissioners Harrington Wimberly and Dale Doty . . . AEC has completed negotiations with Kaiser Engineers, a division of Henry J. Kaiser Co, for construction of a large part of expansion of Hanford, Wash., plutonium-producing project . . . Despite Congressional pressure, Interior Department is still dragging its feet in approving the power exchange contract between electric companies in Southwest and SPA. Contract of same nature between Vepco and Sepa was still on Chapman's desk at midweek . . . Congressional budget cuts to District of Columbia have dimmed the lights in downtown area of nation's capital. To save money district's commissioners ordered one lamp turned off in each of 330 twin-globe streets lights . . . REA approves $100,000 loan to Sawnee Electric Membership Corp, Cumming, Ga.

American P&L has proposed, but SEC must still approve, these directors for the independent Washington Water Power Co: Kinsey M. Robinson, president of WWP; J. E. E. Royer, vice president and general manager of WWP; Rodney G. Aller, son of president of AP&L; John J. Burke, president of a Butte, Mont., bank; James A. Poore, Butte attorney; Albert Y. Bingham, Chicago banker; Howard C. Paulsen of Spokane; J. Neil Smith of Kansas City, Mo., vice president of United Fund; and Raymond Eloe, Spokane businessman.

Construction—TVA spins first 125,000-kw unit at Widows Creek steam plant; other five units of 125,000-kw each will be put into operation at about two-month intervals. Capacity of 750,000 kw is about equal to that of Wilson and Wheeler Dams combined.

Financial—Arkansas-Missouri Power gets Missouri PSC approval to issue $1,107,000 of 4¼% sinking fund debentures due in 1977 . . . Virginia E&P gets FPC approval to buy all stock of Hydro-Electric Corp of Virginia for $550,000. State commissions of Virginia, North Carolina, and West Virginia already have approved sale . . . Needing cash for its expanding business, Foster Wheeler Corp directors omit common dividend.

Labor—Seattle City Light employees, represented by Joint Crafts Council of 21 AFL unions, ask City Council for wage increases of 10%, free electricity up to $8.50 per month, triple holiday pay, and shorter hours.

Rates—In his closing arguments, Pacific G&E's attorney Ralph Duval tells California PUC that company's request for $37.4 million a year rate increase is necessary because of a "continuing inflationary economy." Decision is expected in 45-90 days . . . Cincinnati G&E gets Ohio PUC approval to cut rates by $18,802 a year in 11 southwestern Ohio communities outside Cincinnati . . . Gulf States Utilities plans to appeal a district court decision which upheld Louisiana PSC in denying the company a 20% rate hike.

From East North Central—Because its municipal plant is inadequate, South Whitley, Ind., will buy power from Public Service Co of Indiana.

From West North Central—Elkader, Iowa, citizens vote 383-to-284 to approve 25-year franchise for Interstate Power Co.

From West South Central—At annual membership meeting of Farmers Electric Co-operative Corp at Newport, Ark., petitions were circulated for creation of a public utility district for all of Jackson County, Ark. PUD would have the power to buy all existing properties, including REA co-ops, facilities of Arkansas P&L and another private utility that serves Tuckerman . . . Arkansas P&L asks PSC approval to buy Swifton P&L from Graham Brothers Corp for $65,000 which was reached by "arms length bargaining," AP&L says.

From Mountain Area—Merger of Frontier Power Co and Southern Rocky Mountain Utilities is being planned.

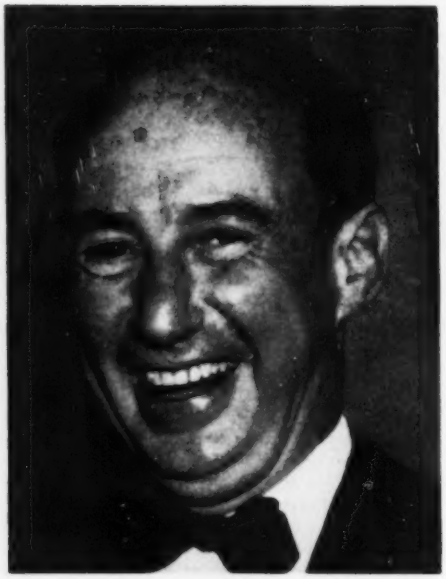
From the Far West—Grand Coulee power plant in Washington set a new world record for power generation July 21 and broke it on July 22. Record figure was 2,252,000 kwhr in one hour . . . At a recent meeting members of Yakima Indian Nation have reluctantly authorized the Yakima Tribal Council to bargain with the federal government to exchange fishing rights for money so the Dalles Dam on Columbia can be constructed.

Witnesses from northern New York State late last month urged the International Joint Commission for hydro-electric power development of the St. Lawrence River to approve construction of a big power plant on the river by New York and Ontario. The Canadian government on July 23 submitted its formal application to IJC for the 2.2 million hp hydro project.

Inventory limitations on copper and aluminum have been temporarily suspended for electric utilities. Depa says.

The Planks on Power

GEN DWIGHT D. EISENHOWER



GOV ADLAI STEVENSON

Valley Authorities

Republican: "We vigorously oppose the efforts of the national administration, in California and elsewhere, to undermine state control over water use, to acquire paramount water rights without just compensation, and to establish all-powerful federal socialistic valley authorities."

Democratic: "We pledge the continued full and unified regional development of water, mineral and other natural resources of the nation, recognizing that the progress already achieved under the initiative of the Democratic Party in the arid and semi-arid states of the West, as well as in the Tennessee Valley, is only an indication of still greater results which can be accomplished."

The Democrats Choose a Moderate on

The Democrats have chosen a moderate to head their Presidential ticket in November. This means moderation in all things—taxes, labor, farm policy, and electric power, particularly.

Gov Adlai Stevenson won at Chicago for several reasons. He attracted the Administration because of his powerful showing four years ago when he won the Illinois governorship by more than a 500,000 majority. He attracted the internationalist wing because of his primary concern and emotional interest in working with Europe against Soviet aggression.

But he won the backing of the Democratic organization because he was neither the property of the conservative, anti-Fair Deal South, nor the ultra-New Deal North.

On public power policy, the way a politician approaches the question of federal ownership and operation of electricity is what the people in the industry want to know.

Stevenson is a Democrat, no doubt about it. And as a Democrat, he fundamentally believes the nation's water and fuel resources should be developed to generate electricity "for the people." He is not against using public money to do that job. But the point is, he is no crusader for public power.

Stevenson said recently that the private utilities, because they are "affected with a public interest," should come under sound and strong regulation as regards rates and services. As to government intervention in ownership and operation of public utility properties, however, he feels this

Multipurpose Projects

Republican: "We favor continuous and comprehensive investigations of our water resources and orderly execution of programs approved by Congress. Authorized water projects should go forward progressively with immediate priority for those with defense significance, those in critical flood and water shortage areas, and those substantially completed."

Democratic: "We favor the acceleration of all such projects, including construction of transmission facilities to load centers for wider and more equitable distribution of electric energy at the lowest cost to the consumer with continuing preference to public agencies and REA cooperatives."

Rural Electrification

Republican: "We support the principle of bona fide farmer-owned, farmer-operated cooperatives and urge the further development of rural electrification and communication, with federally assisted production of power and facilities for distribution when these are not adequately available through private enterprise at fair rates."

Democratic: "We will continue to fight to make electricity available to all rural homes, with adequate facilities for the generation and transmission of power."

A Continuing Program

Republican: "The federal government and state and local governments should continuously plan programs of economically justifiable public works."

Democratic: "The Democratic Party is dedicated to a continuation of the natural resources development policy inaugurated and carried out under the administration of Presidents Roosevelt and Truman, and to the extension of that policy to all parts of the nation. . . ."

Atomic Energy

Republican: No plank.

Democratic: "We pledge ourselves . . . to promote the development of nuclear energy for peaceful purposes in the interest of America and mankind."

Control of Power Projects

Republican: "We favor greater local participation in the operation and control and eventual local ownership of federally sponsored, reimbursible water projects."

Democratic: No comparable plank.

Power to Oppose Eisenhower

should be confined strictly to those cases where a need exists that is not and cannot be met by private capital.

His only passion is working with the free world to combat Soviet aggression. At this juncture he would sacrifice any other program to do that job. Indeed, Eisenhower's outlook is similar, if not identical.

The two platforms serve as a guide for those who want to know the party view on the role of federal government in power development.

Neither Eisenhower nor Stevenson have extensive public records on this matter. It is believed the Republican power program coincides fairly well with Eisenhower's views.

On the other hand, the Democratic platform may stress the role of the federal government more than Stevenson will in campaign speeches.

From the accompanying excerpts (see box) it will be seen that both parties are firm in their endorsement of Rural Electrification Administration policies. More important, they both appear to favor federally financed generation and transmission facilities for rural cooperatives, although the Republicans would limit this financial aid to areas where the power cannot be supplied by electric companies.

Democrats again endorse the "preference clause," while Republicans take no clear stand on this subject.

The Democrats also back construction of the Hells Canyon Project by supporting a plank for opening the nation's phosphate rock deposits in the West through prompt development of low-cost power.

Herschel Jones wrote→
← Robert Blum revised

Working together on the the energy section of the Paley Commission Report, these government staff men came up with a plan for . . .

Power in Plenty—Through Cooperation

Cooperation between industry and the federal government is the only basis on which the nation can keep up with its rapidly-expanding electric power requirements.

This is the theme that recurs time and again in the energy section of the report released recently by the President's Materials Policy Commission (EW, July 7, p 8). Main purpose of the report is to plot the course the nation must follow to meet its resource needs between now and 1975.

Chief architects of the power section were Dr Herschel F. Jones of Bonneville Power Administration and Robert Blum of National Security Resources Board. Top men from private companies served as consultants.

Entitled "Resources for Freedom" the report is concerned mainly with availability of raw materials and production capacity in this country. In the case of power generation, it concludes that there will be plenty of fuel and hydro-power available to meet generation needs of 1975.

Sharing the Field . . . Chief problem ahead in electric power expansion, the report hints, is the rapid, coordinated construction of generation facilities to meet regional and national requirements. The commission is well aware of the difficulties of drawing a line between the roles of public and private enterprise in specific situations. However, the commission accepted as a basic principle that government and industry both have major roles to play in the future development of electric power and there should be close coordination.

While there is a need for clarification of the government's role in transmission of power and steam generation linked with hydro projects, the commission concludes that industry and the government will probably continue to share the field.

The commission expects electric companies can and will provide most of the expansion the nation will need, especially for thermal generation. It adds, however, the government will have continuing large responsibilities of the sort presently handled, and especially for developing electricity from waterpower sources.

This approach appears in sharp contrast to the recommendations of the President's Water Resources Policy Commission (EW, Feb. 25, p 69.) The water resources policy group leaned much more heavily on the all-out federal development of hydroelectric sites, and proposed an elaborate basis-by-basin organization to recommend the development program.

On Private Hydro . . . The Materials Policy Commission plainly states that private business can handle development of some of these hydro sites, especially where the sites are suitable for power development alone. On thermal expansion, the commission concludes, "private industry is well equipped to carry the main burden."

To meet the long-range electric power needs of the nation the commission called for action by industry and government in the following six main areas:

- Government policies should be shaped to provide conditions favorable to capital expansion by electric companies balanced with full protection of the consuming and investing public. These policies should also provide incentive for intensive technological research and development of new techniques.
- Cooperation between federal agencies and electric companies is vitally needed to permit each to help meet the increasing power needs of the nation. There is a need for joint public and private utility planning for future expansion. Protracted controversies will only contribute to power shortages and higher energy costs.
- Remaining opportunities for improved integration of electric plants and systems everywhere, both within and between power regions—and regardless of ownership—should be exploited fully. Removal of state restrictions on electric power exports and resolution of present issues concerning federal jurisdiction over interstate power shipments would help.
- Federal government will have to continue its work on economic hydro sites especially where multipurpose development of a river basin represents the best approach. But there will be cases where private business can handle the development or where private industry and government can collaborate in multipurpose development.
- Private enterprise is well equipped to carry the main burden of thermal

expansion, though government can assist and supplement at various points by contributing technology and where appropriate, constructing limited amounts of thermal capacity to operate in conjunction with government-operated electric systems.

● Cooperative arrangements between Atomic Energy Commission and electric companies to develop economical ways of obtaining electric energy from atomic sources should be continued and, if possible, speeded up.

As the conclusions of a Presidential advisory commission, these six recommendations could play a large part in shaping federal power policy for the President who will take over in January. While the commission was appointed by President Truman, many staff members hope the report will serve as a guide to future Presidents.

Heading the commission was William S. Paley, president of Columbia Broadcasting System. Jones was the staff member largely responsible for collecting the original data for the electrical energy section. He is chief of the branch of power requirements in BPA's division of operation.

Besides collecting basic data for the energy section of the materials policy report, Jones also worked on the first draft of the section. Some persons who saw the first draft complained it overemphasized the government's role in electric power development, probably because Jones was more familiar with that role.

To Robert Blum, who headed the staff of the energy section, probably goes the credit for bringing the electrical power section into better balance. From the first, Blum insisted the energy section should be professionally valid and properly balanced. Because of his own previous experience in electric power matters, he was able to organize the staff and call in consultants that would help him attain his objective.

Industry consultants on the electric energy section of the report were leading men in the electric utilities field: Walker Cisler, president of Detroit Edison Co; Philip Sporn, president of American Gas & Electric Co; Edward W. Morehouse, vice president of General Public Utilties Corp; and R. A. Kampmaier, assistant manager of power, Tennessee Valley Authority.

While offering data and suggestions, these men did not necessarily support the conclusions of the commission.

Showdown on USBR Spending?

Rep Clair Engle awaits legal opinion on whether bureau violated law in overcommitting an authorization

A showdown is brewing between Congress and some of the executive agencies over control of federal spending. Primarily involved are the Bureau of Reclamation and the Army Corps of Engineers.

Opinions from the comptroller-general and the attorney-general are in preparation and are due shortly to clarify whether or not the Reclamation violated the law in overcommitting an authorization for a project.

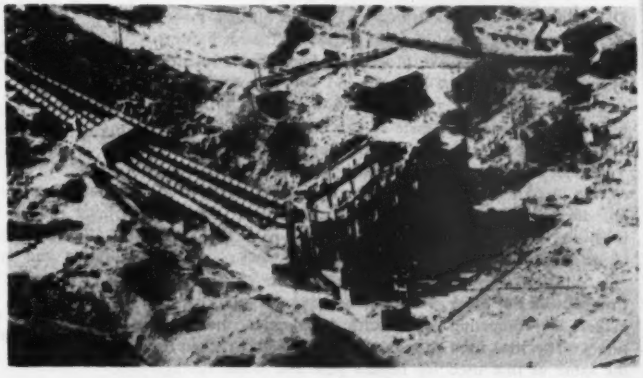
Request Opinions . . . Clair Engle, California Democrat, who is chairman of the House Interior subcommittee for irrigation and reclamation, requested the opinions after it developed that Reclamation had overcommitted by about $3 million its authorization for the Eklutna hydroelectric project at Anchorage, Alaska. The committee had limited authorization to $20,365,400. When Reclamation sought to have this authorization increased to $35 million, it was learned contract commitments amounting to $23,622,698 already had been made.

Congressmen Complain . . . Congressmen complain that once an agency gets an authorization, Congress pretty much loses control over spending. Costs may be doubled or trebled over the original estimate before the project is completed, they point out, with Congress about helpless to do anything about it.

This year the House Interior Committee got its back up and apparently is set for a showdown. It refused to increase the Eklutna authorization and instead sought the legal rulings. The committee plans to sit tight until the bureau uses up all of the $20 million both authorized and appropriated and then see what happens. Before then the committee hopes to have a favorable ruling.

Strauss' Defense . . . The ruling is sought under the Anti-Deficiency Act of 1951 which has both civil and criminal penalties for the over-committing of authorizations. Strauss' office says its defense is that contracts it made in excess of authorization were contingent on Congress authorizing the money. Reclamation now estimates total cost of Eklutna at $33,000,000 and plans to finish it in '55.

House Public Works Committee is having similar trouble with the Corps of Engineers, claiming the agency has overcommitted authorizations on some of its flood control projects.



Down (Indefinitely) for Repairs

Conventional, not atomic, bombs did this to Kyosen Power Plant No. 4 in North Korea. The Air Force has just released this low-level reconnaisance shot showing damage done by carrier-based planes of the Navy in the recent much-discussed power plant strike. Generator house was destroyed, transformer yard damaged. Control house took a direct hit. For high-level shot of punishment being inflicted on Suiho Plant in the same raid, see EW, July 7, p 7.

IN THE INDUSTRY

In the scrap for vitally needed steel, electric utilities again find themselves in the middle of a squeeze play. On one side are the important defense industries, on the other the politically potent consumer industries.

With men dying on the battlefields of Korea the military and the atomic energy programs must get steel to keep on schedule. Consumer goods manufacturers must get steel to keep men at work. In an election year the arguments of both these claimants have a magnetic appeal.

Electric Power Program to Suffer . . . It appears at present that the appeal will be heeded. The electric power expansion program will suffer prolonged effects from the steel strike. Although top Washington mobilizers generally estimate steel production losses at two months, with the disruption already caused it may be well over three.

Plan of the top mobilizers is to get the military and atomic energy programs back on schedule as quickly as possible. Steel mills must fill all second and third quarter orders for these programs by Nov. 30. Furthermore, they must get their fourth quarter requirements.

For utilities this is the way steel allotments will work under the present plan:

Second and third quarter steel allotments may be cashed up until Nov. 30 if the utility can find a supplier. After that date allotments for these quarters are no longer valid. The utility must then use fourth quarter allotments. These are valid until Feb. 28, 1953. There is no plan to increase the fourth quarter allotment above the level of the advances already allowed.

For the first quarter of next year the control agencies will try to bring the allotment-supply ratio back into balance. It cannot be done before then. Electric power industry men in Washington believe it will be the third quarter of next year before steel for the industry will again be supplied in an orderly manner.

Depa Battles for the Industry . . . Defense Electric Power Administration, claimant agency for the utilities, is battling to relax some of the CMP procedures for heavy industries. Specifically it wants the Nov. 30 and Feb. 27 cutoff dates extended. Depa argues that utilities want their orders to remain in the same sequence as they are now. The cutoff dates would merely add to the disruptive processes.

At the same time Depa is calling attention to the vital role of electric power in the defense program. This is an old story that Depa feels it must retell. Unless some aid is given, Depa says there is a distinct possibility that in 1953 some defense plants may not have power.

Competitors For Steel . . . For some types of steel weapon makers are competing with electrical equipment manufacturers. The steel used to make some shells and rockets is the same as that used for header pipe and boiler tubing. This will mean that boiler drums will be shipped but that pipe and tubing to erect them will follow later. This will cause some confusion in figures because boiler manufacturers keep tab on shipment dates of drums. From these they calculate the number of pounds of steam capacity they have shipped.

Under CMP procedure during the next five months there will be no special material assistance for civilian use. This includes the electric power program. Mobilizers will be so busy with directives for military items there simply won't be time for assisting other industries. It is still too early to guess just how hard the utilities will be hit by the steel scarcity.

Depa Administrator James F. Fairman says it will be impossible to know how utilities will fare until the military and atomic energy requirements are met during the next few months. After that the electric industry will be in a better position to survey the damage caused by the steel strike.

TECHNICAL NOTES

ARCHER E. KNOWLTON

Spiral casing inlet velocities have been increased from 17% to 23% of the total velocity available with resulting decrease in size, weight and cost of the water wheel casing and insignificant sacrifice in efficiency.

Distillation of water for removal of minerals may yield to ion exchange employing 4 to 20 kwhrs per 1,000 gals and semi-permeable membrane of synthetic resin.

Cable systems in power plants amount typically to from 1% to 2% of the total cost of the station. They are not the place to skimp at the expense of reliability of control and of auxiliary power.

Covers are hardly necessary for control cable pans unless foreign matter may fall in or workers use them for walkways.

Auxiliary motors starting up simultaneously after a plant disturbance may pull so much starting current and cause so much feeder drop as to lower voltage to point where motors do not develop enough torque to accelerate under load.

Current ratings of cables in conduit are from 10% to 15% lower than the ratings in air. In pans the derating should be about the same as for the same layering and proximity in air.

Electromagnetic apparatus would generally have to be increased in dimensions to accommodate aluminum as an alternative to copper. There are plenty of other applications where substitution can be made without disturbance.

Streamlining the runner blades of 4,000 hp, 94.7 rpm 80-ft head Francis wheels down to ¾ inch (from 1½ inch) for 5½ inches back from the trailing edge stopped vertical vibration and cracking of the blades. Better yet output was increased 6½ %.

Accounting and charging for the costs of setting or removing joint poles may entail almost as much expense as the job itself.

Houston's municipal well-water supply is fed through a "aquifier" (seepage) of 120,000,000 sq ft cross-section. New York gets 3 times as much water through a pipe of 160 sq ft cross-section.

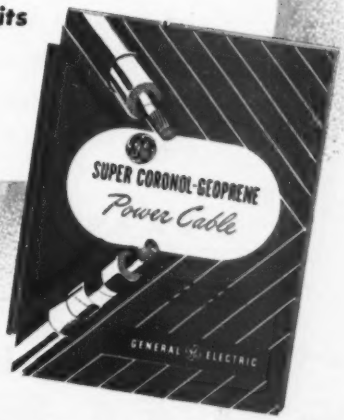
Copper is a good brazing medium because it wets and bonds well to steel and shows retention of tensile strength after subjection to temperatures up to 900 F.

Here's where you use

SUPER CORONOL*-GEOPRENE

Power Cable

- ***Aerial or Underground Transmission and Distribution Systems***
- ***Station and Apparatus Circuits***
- ***Mine Power Circuits***



Wherever your schedule calls for high-voltage nonmetallic cable, make General Electric Super Coronol-Geoprene power cable your choice for all-round service. Where operating conditions demand exceptional resistance to ozone, heat and moisture, Super Coronol's insulation provides extra-long service life.

And, the specially compounded Geoprene jacket gives additional protection against sunlight, oils, soil acids and alkalies, and flame.

The sturdy Geoprene jacket is far tougher than any natural rubber jacket and will take mechanical abuse during and after installation. Yet, Super Coronol-Geoprene cable is lighter, more flexible than metal-clad types—is easier to handle, easier to install.

Where temperatures run high, choose Super Coronol-Geoprene cable. It permits high current-carrying capacity and small conductor sizes because of its high temperature rating.

Wherever you meet high-voltage cable applications, think first of G-E Super Coronol-Geoprene power cable.

*Registered Trade Mark of General Electric Company

Get further application and specification data from this Super Coronol-Geoprene Power Cable booklet. You'll also get test data plus splicing and terminating information. Just fill in the coupon and mail it today for your free copy.

Section W68-827
Construction Materials Division
General Electric Company, Bridgeport 2, Conn.

Please send a free copy of the Super Coronol-Geoprene Power Cable booklet to:

Name_____ Title_____

Firm_____

Address_____

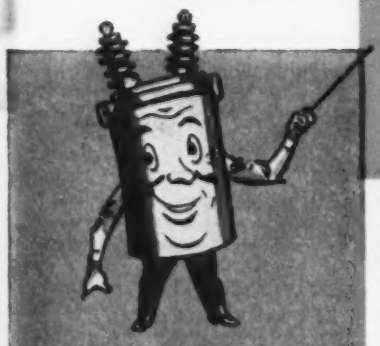
City_____ Zone____ State_____

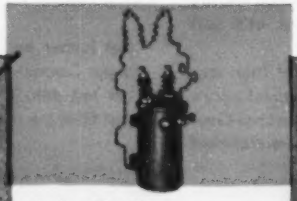
You can put your confidence in—

GENERAL ELECTRIC

BALANCED

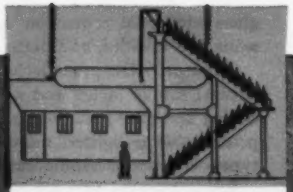
HiperCore 4 point superiority for Balanced Performance





1. Smaller Size

Reductions in size range up to 30% because the oriented cold-rolled silicon steel used in HiperCore Transformers has 30% to 35% higher flux carrying capacity. Consequent reductions in the weights of steel, copper, oil and other materials used results in a smaller and lighter weight transformer with decidedly improved all-around characteristics.



2. Surge-Tested Design

Maloney HiperCore Transformers are of surge-tested design. Maloney's 3,600,000 volt surge generator is used to test the ability of HiperCore Transformers to withstand lightning and other surges. Surge-tests far in excess of normal operating conditions are run to insure a longer, more efficient, trouble-free operating life.

FACTORIES AT ST. LOUIS 20, MISSOURI AND TORONTO, ONTARIO, CANADA

PERFORMANCE

. . . the result of skill and experience

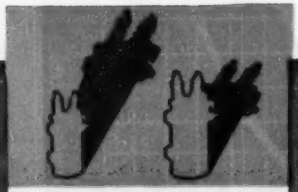
IT looks so easy! But . . . you know it's not! This fellow has to keep his mind on his work and walk a straight line. So it is with a transformer . . . it must keep working day and night. It must operate efficiently under normal conditions in addition to being able to handle overloads, surges, and what have you, without an interruption of service . . . in short, *balanced performance.* Thus *balanced performance* cannot be achieved when one feature is emphasized at the expense of other features. Therefore, it would be well to check all the features of a transformer to be sure that it will perform as you want it to . . . *continuously* and *efficiently.* We feel that such precaution will result in the selection of Moloney HiperCore Transformers for your distribution system.

MEB3-13

MOLONEY ELECTRIC COMPANY

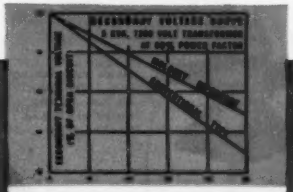
Manufacturers of Power Transformers • Distribution Transformers • Load Ratio Control Transformers • Step Voltage Regulators • Unit Substations

SAINT LOUIS 20, MISSOURI



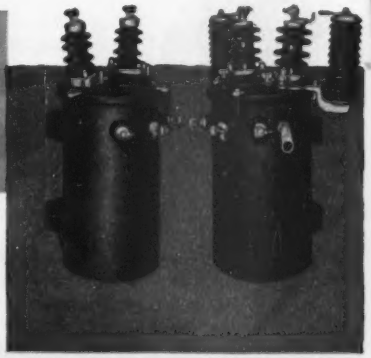
3. Greater Short-Time Overload Capacity

Moloney HiperCore Transformers have improved short-time overload characteristics which provide better peak load performance and longer life. Reduced coil mass, achieved through use of oriented steel cores, together with the extensive use of cooling ducts, results in more rapid cooling of the windings and in a lower hottest-spot temperature gradient.



4. Better Voltage Regulation

The smaller cores of HiperCore Transformers make possible windings having lower impedance. Lower impedance provides lower internal voltage drop at all loads. This is especially important during peak load periods, since HiperCore transformers can carry higher overloads than older types, at the same permissible regulation.



MOLONEY ELECTRIC = { BETTER PERFORMANCE / GREATER RELIABILITY / LESS MAINTENANCE

SALES OFFICES IN ALL PRINCIPAL CITIES

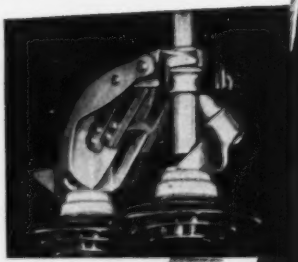
Let's look at the "MK-40" BLADE MECHANISM

Designed to give you smoother operation —longer service

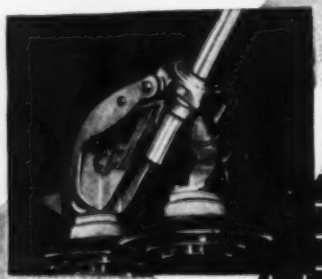
One 45-degree blade actuating mechanism replaces arrangements of cranks, levers, links and cams so common on ordinary switches . . . converts motion of operating insulator to a vertical lifting and rotating motion of the blade in just the right sequence and with just the right mechanical advantage. Blade is under positive control at all times. Toggle effect of the mechanism locks the blade in fully closed and fully open positions.

This mechanism incorporates a factory sealed greaseless bearing assembly of the double race ball type requiring no field adjustments. It develops enormous leverage in initial opening and final closing; where it is most necessary to break ice accumulation or corrosion. Variation in leverage equalizes the gravitational pull on the blade and results in a smooth uniform operational effort. That's why the "MK-40" switch is so easy to operate under all weather conditions.

Ask for Publication 4807.

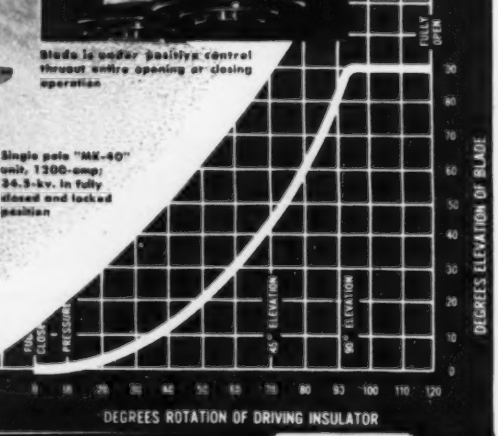


Mechanism bearing past dead center, blade is securely locked in open position



Blade is under positive control thruout entire opening or closing operation

Single pole "MK-40" unit, 1200-amp; 34.5-kv, in fully closed and locked position


FULLY OPEN
45° ELEVATION
90° ELEVATION
DEGREES ELEVATION OF BLADE
0 10 20 30 40 50 60 70 80 90
0 10 20 30 42 50 63 70 80 93 100 110 120
DEGREES ROTATION OF DRIVING INSULATOR

WHEN YOU WANT THE BEST IN HIGH VOLTAGE SWITCHES SPECIFY THE "MK-40"

DELTA-STAR ELECTRIC COMPANY

DIVISION OF H. K. PORTER COMPANY, INC.

2437 Fulton Street • Chicago 12, Illinois

DISTRICT OFFICES IN PRINCIPAL CITIES

Pelton Dam Setback

Oregon commission rejects Portland GE application for permit for Deschutes plant

The Oregon State Hydroelectric Commission, July 17, rejected an application of Portland General Electric Co for a state permit to construct Pelton Dam on the Deschutes River. The Federal Power Commission had previously issued a permit.

The state bases its claim to jurisdiction on a state law which provides that no dams shall be built on Oregon streams without approval of the State Fish Commission and the State Hydroelectric Commission. Since the Deschutes is entirely within the state boundaries, the commission contends that the proposed dam is within the provisions of the Oregon law.

Jurisdiction is claimed by the FPC on grounds that the proposed damsite rests on federal land.

The company plans to continue the legal fight for permission to build the dams.

At stake in the issue is construction of both Pelton and Round Butte Dams, projects of Portland GE. Only Pelton was involved in the application for a state permit, but plans of the company include the Round Butte project, upstream from Pelton. The two projects would cost about $70 million and generate 345,000 kw.

The commission, in its ruling denying a permit, found that the proposed dam would eliminate entirely salmon runs above the dam, and would end plans of building up present salmon runs in the Deschutes to replace spawning grounds lost through construction of big federal dams on the upper Columbia.

A Third Return for a Classic

For the third time the Electric Companies Advertising Program will repeat its famous advertisement, "Will you leave these to your children?" It will be run in August in magazines regularly scheduled. When it was first run in November 1949, the ad was such a sensation that it was repeated in April 1950. Since it first appeared over 200,000 reprints have been distributed, and requests are still coming in. It has been the theme for sermons and for editorials. James Sellers, associate copy director, N. W. Ayer & Son, Philadelphia, the agency handling the account, was the copywriter. He has also written many of the other ECAP ads.

Nelson Named President of Eastern Shore PS Co

George Merle Nelson has assumed the presidency of Eastern Shore Public Service Co of Maryland and Eastern Shore Public Service Co of Virginia. He succeeds Lewis Payne as top executive of the two utilities, both subsidiaries of Delaware Power & Light Co.

Nelson, vice president and general manager of the two companies since 1946, began his engineering career with the Pennsylvania Railroad and later joined the engineering department of Philadelphia Electric Co. He started with Eastern Shore PS in 1926 as right-of-way agent.

Two years later Nelson was promoted to assistant superintendent of operations at Eastern Shore and in 1935 became superintendent. After 11 years of supervising transmission and distribution for the companies, he was made vice president and general manager.

A native of Delaware, Nelson attended the University of Delaware and was awarded a degree in electrical engineering.

Payne retired as head of the two utilities on July 1. He became president of the companies in 1937.

Hoffman on Loan to NPA

Warren E. Hoffman of General Electric Co has been appointed chief of the Motor and Control Branch of National Production Authority's Electrical Equipment Division. He succeeds Roger L. Kingsland, who has returned to the Elliot Co.

1. Class is at attention . . .

. . . as a system planning engineer conducts a lecture on distribution transformers in one of the company classrooms

Take a Company Course in Power . . .

That's the offer of Commonwealth Edison Co of Chicago. It's been taken up by 10% of the employees for more than 40 years, with benefits all around

G. E. **RODMAN**, E. C. **OZAG**, W. H. **HARMON** and B. J. **SMITH**, Training and Safety Division, Commonwealth Edison Co

If an employee is ambitious enough to study after working hours to improve himself, it is worthwhile to give him the opportunity. This is the belief of Commonwealth Edison Co which backs up its conviction with a comprehensive after-hours educational program, which began 40 years ago.

Two kinds of educational outlets are provided. Free evening classes are conducted in company classrooms and a tuition refund plan pays employees 65% of their tuition when they complete approved courses in outside schools.

Company classes began in 1912; the tuition refund plan in 1925. Number of employees participating varies from year to year, but enrollment averages about 10% of the company's 9,500 workers.

Differs from Job Training . . . Education an employee gets after-hours is different from the training he gets during working hours. On the job he is shown the special techniques and operations he needs to know to do his assigned work. After-hours education is to help him get additional background and related information, and general education. He can study subjects close to company business, or he can take general subjects such as economics, business law, and many others.

During the 1951-52 season 34 courses were offered in company classrooms to meet a wide variety of needs and interests. They could be classified in three groups: (1) for business and technical understanding, (2) for personal development, and (3) for better living.

Business and Technical . . . Largest group of courses is "for business and technical understanding." Purpose is to furnish information to give an employee a better appreciation of his work and related activities.

A lineman can get electrical theory from the company course in Electrical Circuits and Equipment. He can also take courses in transformers and electrical distribution that deal more specifically with the background of his type of work. Workers in the steam plant in generating stations may take a group of three courses on steam power. For clerical and other nontechnical employees who do not require an extended treatment of electrical methods a popular treatment of the subject is provided in ABC's of Electricity.

Several home-study courses are given to employees unable to attend evening classes, while many advanced students and engineering graduates find courses suited to their needs. They can even earn college credit, since an arrangement has been made with Illinois Institute of Technology to allow degree credit for certain courses. Company studies under this scheme include Engineering Mathematics, Fundamentals of Electronics, and Applications of Electronics. Graduate credit courses are Power Transmission, Electric Transients, Symmetrical Components, and Power System Stability.

Two courses are designed to give a better picture of the company's

2. Charming personality . . .

. . . is aim of class in hair styling, dress, manners and similar topics for ladies only

. . . or Charm

organization and operation. "Your Company and Its Departments" surveys company workings, while "Seeing Your Company" consists of guided tours through the more interesting facilities.

Courses for "personal development" cover general subjects for employees of all departments. One of the most useful is "Rapid Reading," which is intended to increase speed and comprehension.

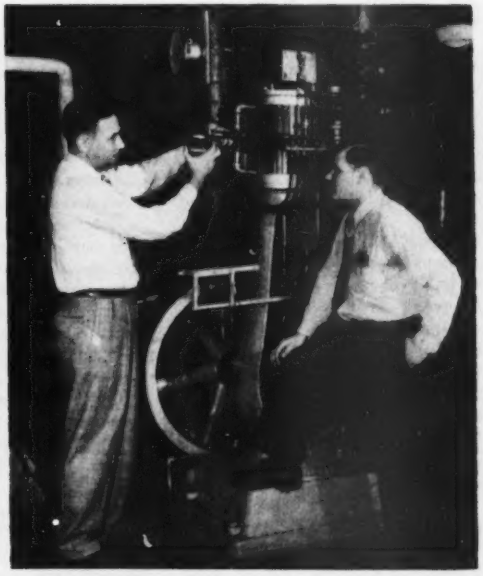
Interest in "First Aid" is active these days because of the increased emphasis on civil defense. "Effective Speaking" is a course for those wishing to increase their ability and confidence before an audience. "With Emphasis on You"—for ladies only—has also proved to be exceptionally popular. It's a charm course, featuring dress, makeup, personality development and similar topics.

Better Living . . . Courses for "better living" is a category developed in the last few years. By touching on personal interests, they give the educational program a more general appeal. Many harassed homeowners have taken the "Home Repairs" course presented by experts in various fields, who demonstrate how to do the average household chores efficiently. Paper is actually hung, faucets are fixed, and paint is mixed and applied.

Women have shown particular interest in the Jane Foster Cooking Course, which features electric cooking. In "lab" sessions each student gets in a little practice. Many men and women have learned "How to

3. Adding up to success . . .

. . . are comptometry and other business courses offered employees



4. Careers are engineered . . .

. . . by these students who got college degrees under tuition plan

Plan Your Interior Decorating," through the course that features color schemes, arrangements and materials.

Management Courses . . . From time to time special courses are offered to management personnel. "Conference Methods" stresses skills of leadership and participation; "Statistics for Management" aims to give supervisors a working knowledge of an important tool; and "Round Table for Management" is a discussion course in problems of supervision.

A feature of after-hours courses is that, in general, they do not duplicate courses available in outside schools. They are tailor-made to needs of Commonwealth Edison employees; courses in "Steam Turbines and Auxiliaries," "Protective Relays," and others, deal largely with conditions and practices on the Commonwealth Edison system.

Need for a course naturally must be determined before it is offered. Such information is obtained through informal surveys, questionnaires filled out by students, signed petitions, requests through employee suggestion system, and information furnished by departmental representatives.

A course is planned by the instructor with aid from the education and training staff. An outline is prepared to blueprint the course. For each meeting it lists the subject, objective, lesson material to be handed out, and a list of demonstration equipment and visual aids to be required.

Teaching Methods and Aids . . . Instructors use such teaching methods as group discussions, demonstrations, laboratory experiments, films, slides, and other visual aids, as well as the conventional lecture technique. Homework assignments, quizzes, and final examinations are also used, and the entire teaching staff meets regularly to discuss problems and ways of improving and making the courses more effective.

For demonstrations and lab experiments, instructors use ammeters, voltmeters, transformers, motor-generator sets, and other similar equipment. Some of the audio-visual aids available include tape and wire recorders, sound motion picture, slides, strip film, and opaque projectors.

Standard textbooks are used where they can be adapted to the course. In many cases, adapting the course to the particular needs of the company makes it impossible to find a textbook that would fit. However, in most courses, lesson notes are handed out at each session. These are not written with the completeness of a text. Rather, they are in a brief outline form to make extensive note-taking unnecessary.

'Our Most Valuable Asset'

Says Executive Vice President John W. Evers about the study plan:

"Our after-hours educational program is an investment in our most valuable asset—our employees. When an employee devotes time to study for self-improvement, both he and the company benefit. The value of this educational program is evident in every phase of our employee relations, and the experience of 40 years convinces us that promoting and encouraging after-hours study is a most effective means of developing skilled employees to maintain high standards of service."

Gets Certificate . . . When an employee completes a course, a certificate of completion is sent to his department head for presentation to him. The course is also listed on his company personnel record card, as an indication of the employee's interest in self-development.

Classes are conducted by a staff of more than 30 instructors, selected for their special knowledge and aptitude for teaching. They are company employees who do the work in addition to their regular duties. In most cases, they teach courses closely related to their work.

Most of the classes are held in four modern and well-equipped classrooms in the Edison Building in downtown Chicago. Classes sometimes are held in outlying locations to accommodate employees who find it impossible to attend downtown.

Administration . . . Administering the classroom program is one of the responsibilities of the education and training staff of the Training and Safety Division. The staff confers with instructors in the development of new courses and the conduct of current ones, coaches new instructors, does editorial work on lesson materials, and carries on promotional work. Members of the staff conduct a few of the courses, but instructors from other departments do the teaching.

A two-color booklet, "Educational Opportunities" is mailed to all employees by the administrative office to help interest them in the program. Supplementary announcements are sent out before the start of the second semester, and posters on the bulletin boards and easel-type display panels are used in lobbies during registration period. Meetings are also held with all supervisors to suggest how courses can benefit employees in their particular area.

Outside Schools . . . Local evening schools are brought into the program through the tuition fund plan. By paying tuition for completed courses, the company encourages study in outside schools, as well as in its own classes. Refunds amount to 65% of tuition and are paid upon successful completion of approved courses. An employee can qualify for a maximum of $100 in refunds in a year. Courses can be started any time after an employee is hired, but refunds can be paid only after he has finished his first year of employment.

Most of the subjects that employees take for specialized or general education are approved for tuition refund. These classifications form the basis for most approvals: (1) All high school courses; (2) Most of the common college subjects; (3) Courses related to the employee's work, (4) Courses related to any of the principal company activities.

Long experience with after-hours education has demonstrated its value in aiding the development of employees, Commonwealth has found. Employees and the company alike have found the program useful. It furnishes employees an opportunity to do something that can help them get ahead and gives tangible evidence of the company's desire to help them help themselves.

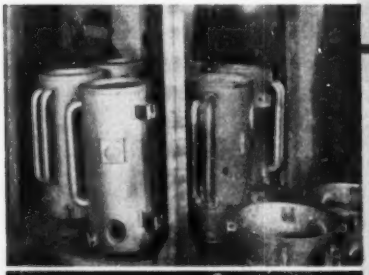
"When I paint the POLE STAR it stays painted" says John Fedorkovic

Pole Star Painter

Whatever can be said about transformer paints, this is certain — the life of any good paint depends upon two things:

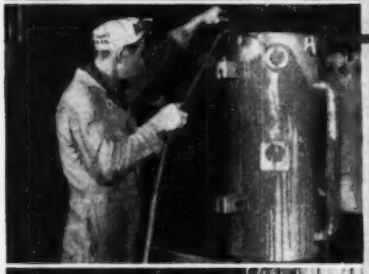
1. **the condition of the surface to which the paint is applied;**
2. **the thickness of the paint coating.**

By using a superior paint and by giving special attention to these two important considerations, Pennsylvania gives each Pole Star tank the maximum amount of protection for the longest possible time.



GRIT-BLASTING

Although generally more expensive than other methods of surface preparation, blasting with steel grit insures that the tank surface will be absolutely clean and free of grease and dirt; and that the surface will be roughened to provide "toothage" to increase the adhesion of the first coat to the steel surface.



FLOW-PAINTING

A flowed film of paint is heavier and more uniform over a large surface than a spray film and has the added advantage of reaching inaccessible places. The primer coat is first flow-coated on the tank. After it is thoroughly baked dry, a coat of blue-gray transformer paint is flowed on, and it too is oven-dried.

SPRAYING

A spray-applied film of paint has a better appearance than a flow-applied film. Thus, the third coat of paint, a blue-gray finish coat, is sprayed on to add to the film thickness and to insure a smooth finish with a maximum amount of gloss.

Pole Star Transformers are available in sizes 5 Kva through 500 Kva, 2400 through 43,800 Volts. Protected Pole Star Transformers, available in sizes up to 100 Kva, are equipped with safety devices for maximum electrical protection.

Pennsylvania

TRANSFORMER COMPANY

CANONSBURG, PENNSYLVANIA

Greater Pittsburgh District

STANDARD BZO BREAKER

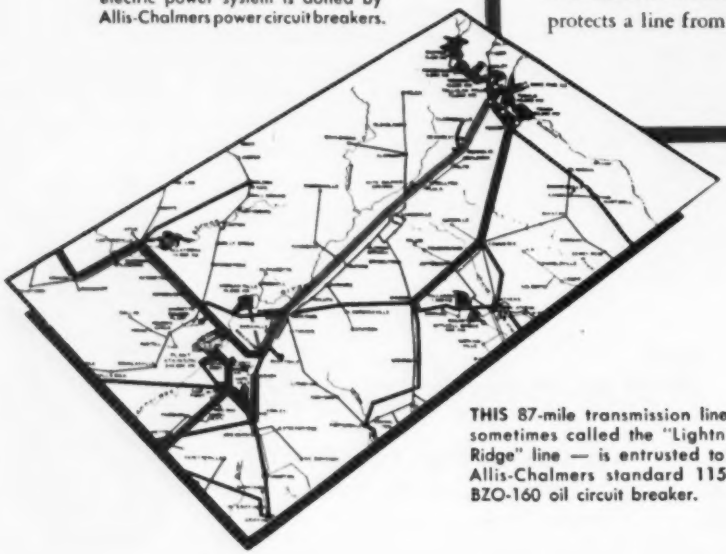
Protects Georgia Power's

GEORGIA POWER'S statewide electric power system is dotted by Allis-Chalmers power circuit breakers.

ALLIS-CHALMERS BZO-160 breaker at right in the picture was installed during 1948 in Georgia Power's Boulevard Substation. It forms the Atlanta terminus of an 87-mile transmission line from the Northeast Georgia Hydro Plants. This 115-kv line has given 40 years of service in a territory averaging 60 electrical storms a year.

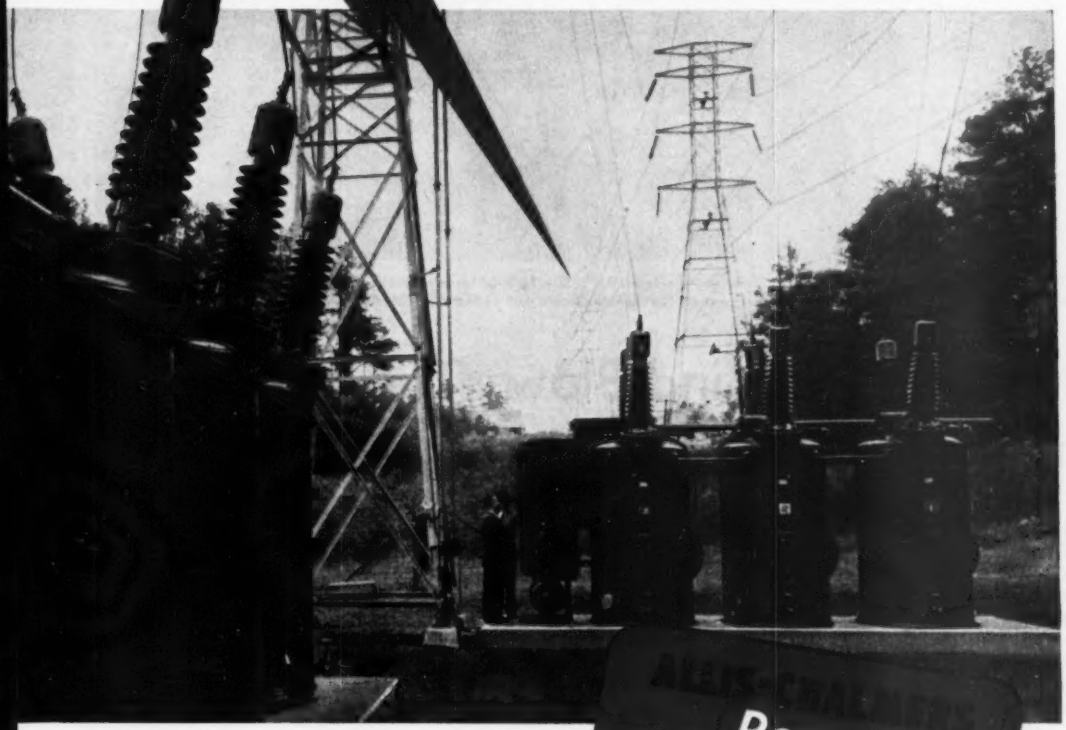
It's definitely a tough job for a breaker. But yearly inspections since installation have revealed contacts, oil, and all other parts in excellent condition. The only preventive maintenance was routine filtering of the oil.

The 115-kv, 3,500,000-kva breaker at left in the picture — one of many A-C high-voltage transmission breakers purchased since 1948 — protects a line from Plant Atkinson. A-3790



THIS 87-mile transmission line — sometimes called the "Lightning Ridge" line — is entrusted to an Allis-Chalmers standard 115-kv BZO-160 oil circuit breaker.

'Lightning Ridge' Line!



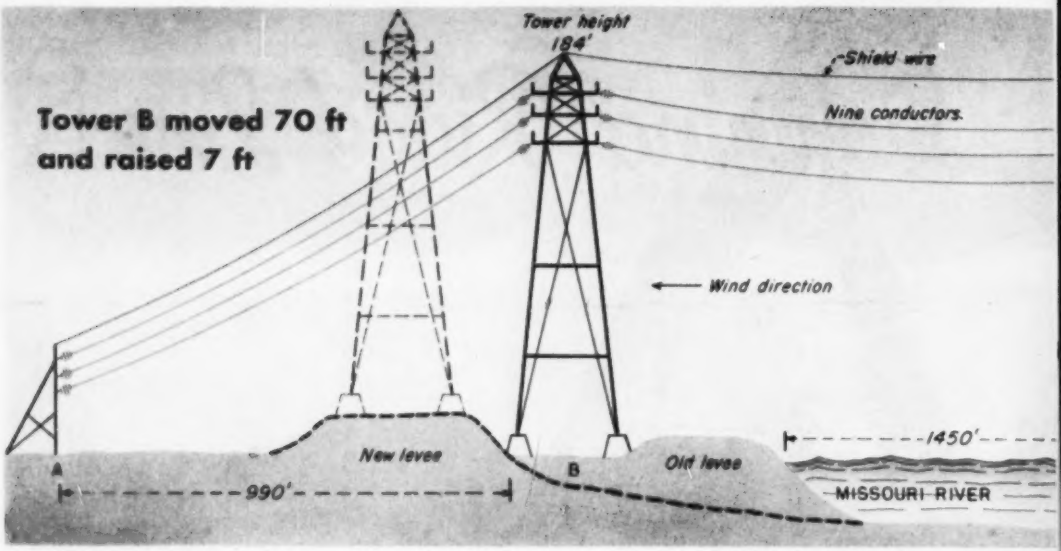
BECAUSE Georgia Power Company's power production rose 81.6% in the postwar years, many new circuit breakers with higher ratings and speeds were needed. The A-C high-voltage outdoor breakers chosen by Georgia Power have proved themselves by their service records. For details about these *time-proved* breakers, ask your A-C representative for Bulletins 71B6022, 71B6421, and 71B7045, or write to Allis-Chalmers, Milwaukee 1, Wisconsin.

Power OIL CIRCUIT BREAKERS

ALLIS-CHALMERS

A-C ALLIS-CHALMERS

Electrical Protection DEPENDS ON Mechanical Perfection



WIDENING THE MISSOURI RIVER CHANNEL and strengthening the levees, after last summer's flood, made it necessary for Kansas City P&L Co to move a 185 ft 100 ton tower (shown as B). The tower had to be raised 7 ft and moved back 70 ft to the top of the

Wind Blows Tower 70ft to

Fortunate breeze blew in right direction when tower was set

Three weeks of preparation and six hours to do the work. That is the story of a tower moving job completed recently by the Kansas City Power & Light Co.

With two trucks in place and set to pull, winch lines to top and bottom of tower, a light breeze in the right direction provided all the force necessary to move the tower to its new foundation as the restraining winch line from a third truck was slacked off.

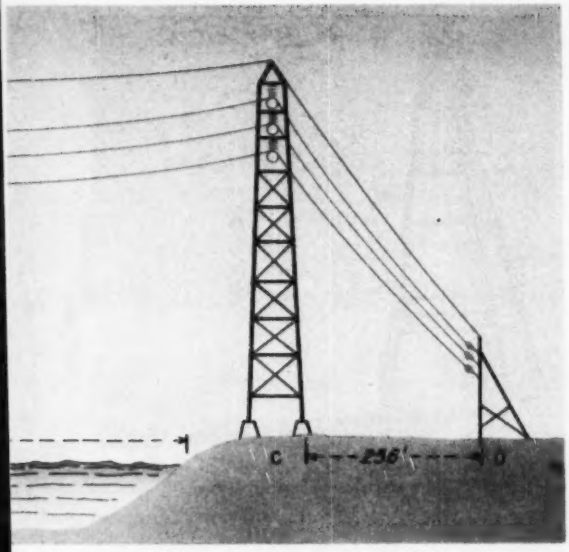
Moving the 185 ft, 100-ton, terminal tower in a 1,450-ft span over the Missouri River was one aftermath of last summer's flood. The job resulted from widening of the river channel and strengthening of the levees.

The tower supported nine conductors; two-33-kv circuits, a 66-kv circuit, and a shield wire. Conductors are 336,400 circ mil ACSR, 30/7 wires and the shield wire ⅜ in. EHS.

The new levee was seven feet higher than the old tower base and 70 ft behind it. Steel could not be obtained in time to build a new tower.

Three weeks preparation included completing the new foundations, building and checking the cribbing and runways, erecting side guys to hold the tower. With the circuits prepared, conductors were sagged low over the traffic-empty winter river, to reduce tension in the lines, and the tower was ready for the actual moving job ⟶

I-BEAMS welded into holes cut in the tower legs were used for lifting the massive tower. Legs were held together by timbers; cribbing was allowed to settle, then checked



new levee. Other end of the 1,450-ft span is the roller tower (marked C). Span is nine-conductor, 336,400 CM ACSR

NEW TOWER BASES shown above in the background, were made ready in advance of tower's actual move. The river is to the right

New Foundation

on skids and steel rollers

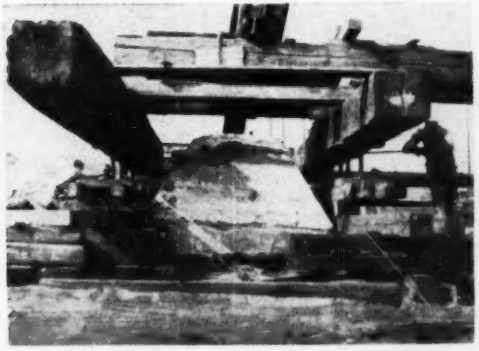
S. H. POLLOCK, Assistant Superintendent, Overhead System, Kansas City Power & Light Company, Kansas City, Missouri

The two 33-kv circuits were combined into one and extended about 1,000 ft upstream to a spare position on another river crossing. The 66-kv circuit was a tie line that could be taken out of service. However, it was kept so that service could be restored within a few hours.

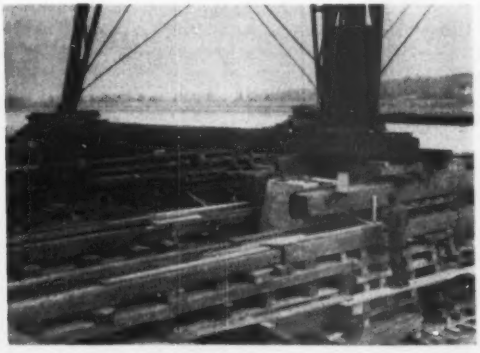
During the winter there is no navigation on the Missouri River so wires were slacked off to 35-ft clearance above mean high water. Wires normally sag 60 ft. Slacking them off allowed an increase in sag to 120 ft, thus reducing tension by 50%.

Towers A, B, and D, are strain towers, while tower C is a roller tower. Tower B had to be moved 70 ft, from the position shown, to a new tower foundation on top of the new levee.

Preparations . . . Conductors were spliced out and let off at tower A and placed in rollers at tower B. They were connected to the back of the suspension insulators holding span BC, and then let off at tower A until the



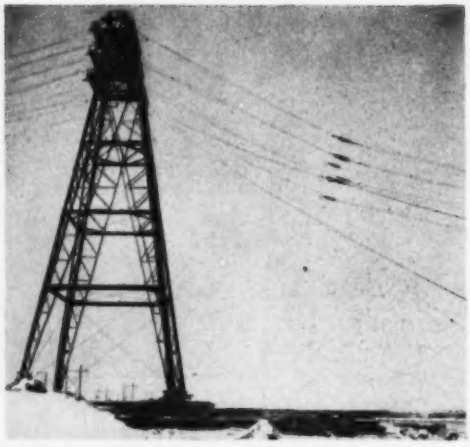
RAISING THE TOWER 7 ft was done by screw-jacks. Two men at each tower leg, at a signal, took a quarter-turn in four screw-jacks



HEAVY CRIBBING, with boards laid on it for a runway, was built up in advance between old and new bases. Tower moved on rollers

Wind Moves Tower To New Base (continued)

NEARLY THERE, front leg of the tower is about to pass over the new base for the back leg. Side guys were one inch steel cables



ON ITS NEW BASE, the tower is now ready for pulling and sagging the conductors. All conductors were pulled at tower D

desired sag of 120 ft was reached.

The new foundations had been prepared in advance. To get hold of the tower a hole was burned through each leg and an I-beam was inserted through each leg and welded to it.

Legs were then tied together with heavy timbers.

Side guys of one inch steel cables, had chain falls that were tightened or slackened as the tower moved.

Preparations were finished on Friday and the tower was lifted one inch and allowed to sit on the cribbing over the week end to check for settling. No settling was found and the raising was continued.

Two men at each leg of the tower at a signal gave a one-quarter turn to each of his screw jacks. This was continued until the tower had been raised seven feet.

Heavy cribbing had been built up between the old and the new bases and planks laid on it for a runway. Iron shoes, with the ends turned up, were placed under the two skids on each leg and the tower lowered onto steel rollers on the runway and the tower was started on its 70-ft trip.

Two trucks were dug in north of the tower. Their winch lines worked into one heavy block and tackle, which was fastened to the top and bottom of the tower to do the pulling. One truck was similarly placed to the south to exert a restraining force as needed to keep the tower in control.

The Actual Move . . . Saturday was moving day. It was a nice day. A moderate south wind was blowing, fortunately in the direction in which the tower was to be moved. With most of the slack pulled out of the towing and restraining lines, the chocks were knocked out from under the rollers, and the tower was immediately started off on its journey under the force of the wind.

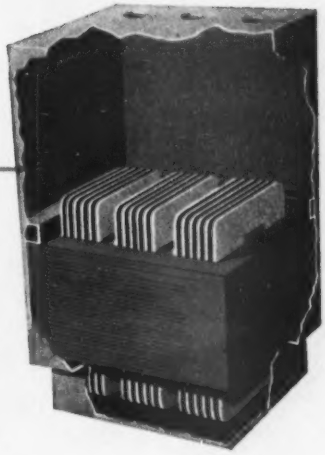
No pull was ever put on the tow lines, because the wind blew the tower along just as fast as the restraining line was released. The move took six hours, as the side guys had to be loosened and tightened every few feet. The track was checked constantly with a level, and a transit was used to check the top of the tower. Any signs of settling of the cribbing were compensated by placing additional boards on the runway.

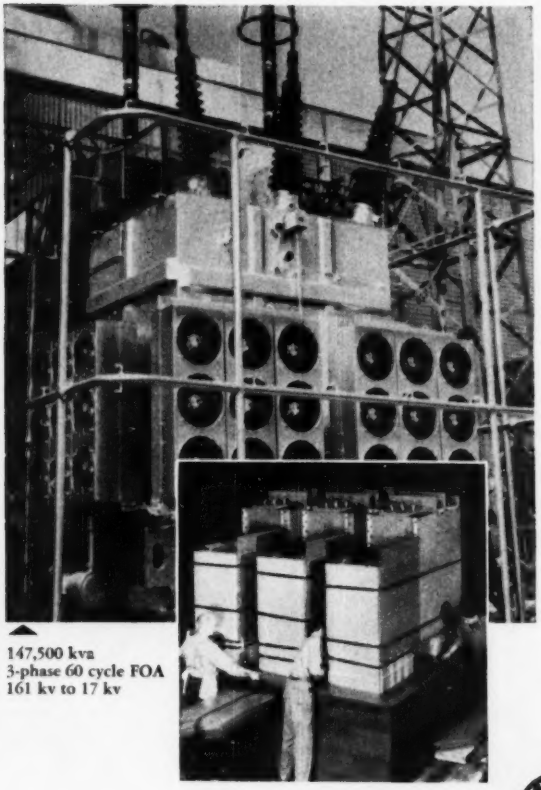
When the tower moving job was completed and the tower set on its new foundation a permanent splice was made in conductors and they were let off at tower D and pulled up at tower A until the suspension insulators in span BC could be reconnected to tower B. Conductors were pulled at tower D to properly sag spans BC and CD. This made complete replacement of conductors unnecessary and at the same time avoided splices in the river crossing span.

Service on the two 33-kv circuits was restored after an interruption of only a few hours. Soon flood waters rose over the old tower site.

COMPLETED just in time. New flood waters are seen coming up around the old tower foundations. After the move, service was restored in a few hours

This design knocks big figures off installation cost





147,500 kva
3-phase 60 cycle FOA
161 kv to 17 kv

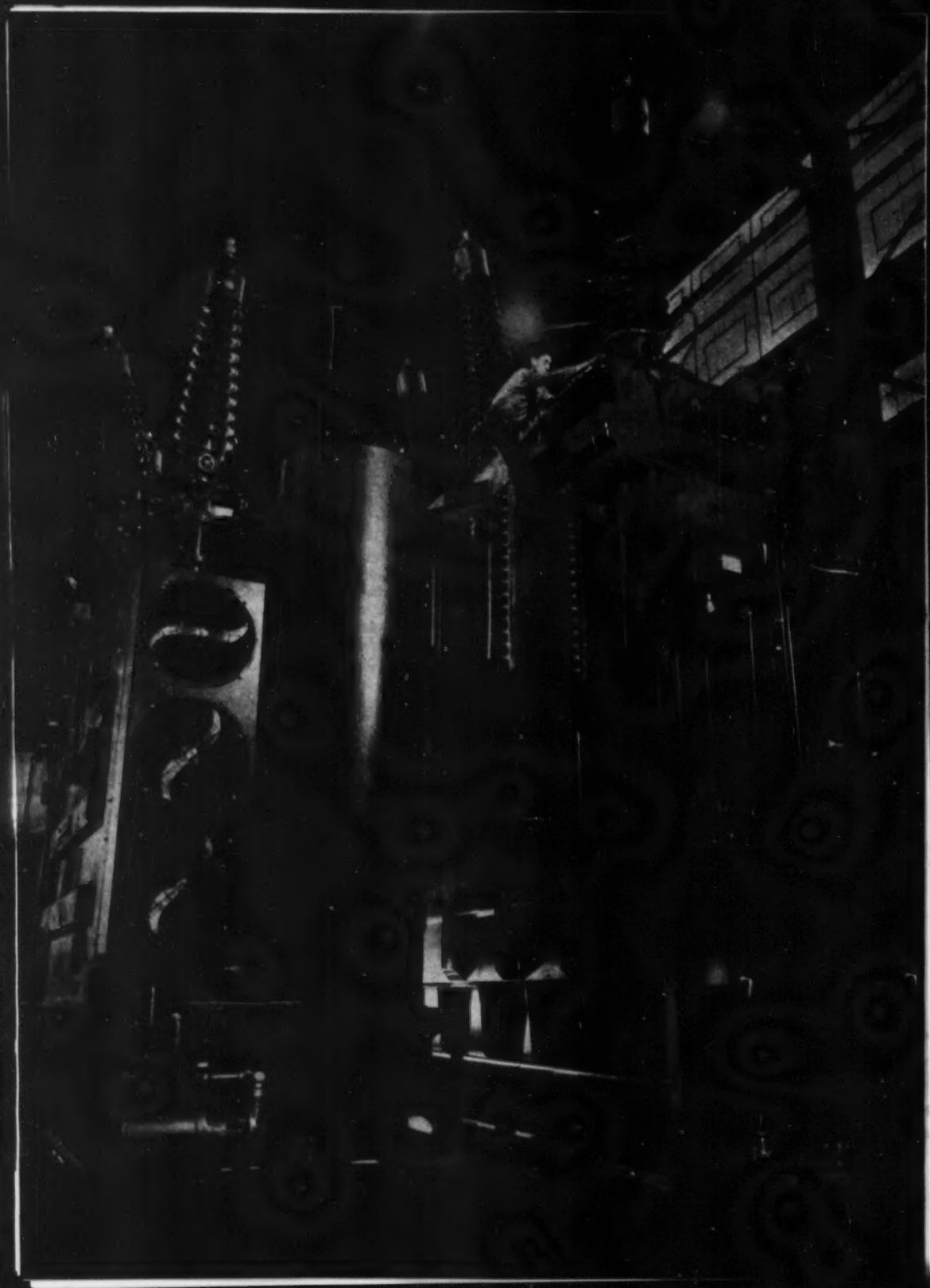
When you figure *installed cost*, a Westinghouse Form-Fit Power Transformer shows substantial capital savings.

It's easier for your crews to handle; get on the line faster. Over-all dimensions are considerably smaller than comparable ratings in other designs. Weight is correspondingly lower, too. This leads to worth-while savings in both foundation and overhead structures.

The Form-Fit case clamps the core, and the core, in turn, surrounds, supports and protects the coils. This compact and sturdy construction permits a transformer to be transported to your site on its side when shipping clearances would otherwise require disassembly. Or it may be tilted at any angle to facilitate installation. This rugged construction means less danger of damage through accidental mishandling; gives added assurance that the quality built into the transformer will reach your site intact.

When you need greater transformer capacity installed on schedule at lowest capital cost, check Westinghouse Form-Fit Power Transformers. Your Westinghouse representative will be glad to give you further information, or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Penna. J-70626-A

YOU CAN BE SURE...IF IT'S
Westinghouse
POWER TRANSFORMERS



Meeting the Nation's Growing Power Load

Size no longer a barrier to Transformer Capacity

On paper, there's no limit to the capacity that can be built into a transformer. The prime stopper . . . size! Economical transmission of big blocks of power at higher voltages requires large transformers, that tax the capacity of ordinary manufacturing facilities and transportation to deliver them. The problem then . . . to boost capacity, but hold size and weight to deliverable limits.

More than a year ago, Westinghouse achieved a new peak of 145,000 kva. Recently, Westinghouse engineers raised the ceiling to 150,000 kva at 220 kv . . . in a Form-Fit unit. Form-Fit transformers can always be shipped more completely assembled.

End of story? No indeed! Transformer research, to keep pace with higher rated turbine-generator units, has been under way at Westinghouse for twenty years. Problems of weight and size are being solved as evidenced in the construction of a 190,000-kva transformer . . . within practical size, weight and cost limits. And . . . further than this . . . 220,000-kva Form-Fit units are even now on order and being designed and still will be shipped *factory-assembled*. Still greater capacity is on the way as the result of developments now in the laboratory stage.

This story of how Westinghouse engineers licked a tough problem is really a series of painstaking, individual development stories, all tied together by a keen insight into your needs today . . . tomorrow. You can count on this Westinghouse "thinking ahead" for all phases of utility service . . . it's keyed to the ever-changing, ever-growing needs of your system. J-97163

YOU CAN BE SURE...IF IT'S

Westinghouse

Form-Fit Power Transformers

A Westinghouse innovation in basic design of large power transformers is Form-Fit construction. Pancake-type coils are mounted vertically with large parallel cooling ducts. The core, stacked through and around the coils, forms a protective shell with advantages in both mechanical and electrical strength. The large plate area of the coils results in distribution of lightning surges across the winding, eliminating the need for special shields, arresters, or other internally mounted protective devices. Because short circuits set up magnetic fields that tend to force high- and low-voltage coils apart, Westinghouse Form-Fit Transformers are arranged with high- and low-voltage coils interspersed, so that these forces actually work against each other. The Form-Fit tank slips down over this compact unit. Increased cooling efficiency of this design, plus more compact construction and lighter weight, makes possible ratings heretofore impractical . . . results in installation savings.

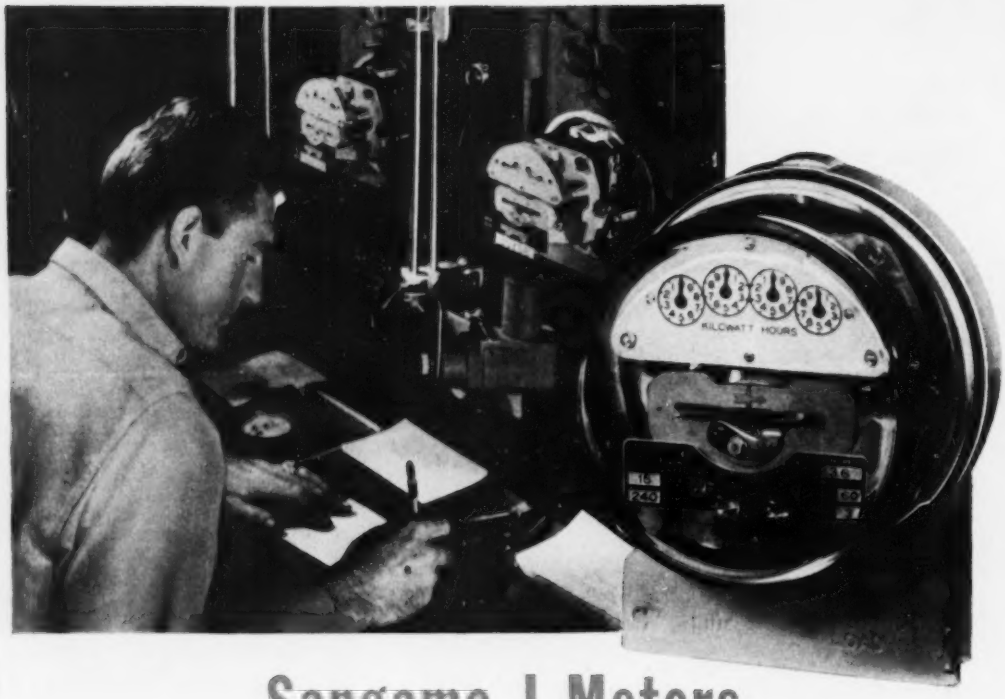
Network Transformers

In conjunction with a progressive utility group, Westinghouse pioneered the first secondary network installation in 1922. Since then Westinghouse has made important contributions to every major development in network transformer design, including the first three-phase units, the first low-loss, oil-immersed transformer, the first ventilated, Class B, dry-type transformer for indoor network service, and the first sealed, Class H, dry-type transformer for submersible and hazardous installations.

CSP® Distribution Transformers

Another development that has brought new operating economies to power distribution is the Completely Self-Protecting Transformer. It combines a distribution transformer with all its protective devices, factory-co-ordinated. These devices include H-V "De-ion®" arresters, protective links, and L-V thermal breaker complete with signal light and emergency control handle. These features protect against lightning, line lockouts, secondary short circuits, and transformer burnouts from overloads. In addition, they provide an automatic load check and permit emergency operation when required . . . assuring better continuity of service.

For information about these and other transformer developments, call your Westinghouse Electric Utility representative . . . or write Westinghouse Electric Corporation, P.O. Box 868, Pittsburgh 30, Penna.



Sangamo J Meters

save costly man-hours

Sangamo J Meters are preferred by men who *work* with meters. Simple full-load and light-load adjustments that are readily accessible from the front . . . registers that are easy to read and easy to remove . . . are a few of the reasons why J Meters are favorites with meter testers everywhere! They're faster to test . . . easier to calibrate.

Sangamo J Meters are also preferred by cost-conscious utility managements because these meters save man-hours. That accurate factory calibration is sustained for many years is proved by the following actual service records: After an 8-year periodic test, one customer reports that all of a large group of J Meters maintained an accuracy between 98% and 102% at both light and full load. Another customer, also after an 8-year period, found 99.6% of all J Meters within the same accuracy band at full load, and 99.3% within this accuracy range at light load.

With J Meters, it is *field evaluation* which proves the saving of costly man-hours.

Only Measured Facts are Known Facts

SANGAMO
ELECTRIC COMPANY
SPRINGFIELD, ILLINOIS

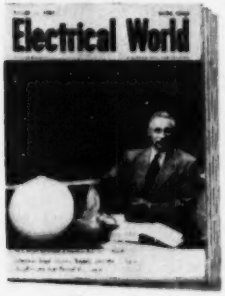
SM52-9

Sangamo J Meters have proved their ability to meet today's requirements and tomorrow's anticipated loads with sustained accuracy, economy of maintenance and troublefree performance.

NEWS ABOUT PEOPLE

Strong Is New Head of IES

Jones, first Canadian elected to post, is named a VP. Reid is made treasurer. Society appoints five regional VPs



(Cover Story)

New president of the Illuminating Engineering Society is Prof Everett M. Strong of the School of Electrical Engineering at Cornell University, Ithaca, N. Y. His one-year term will begin Oct. 1.

First Canadian VP . . . Other newly elected officers include a vice president, first Canadian ever to be elected to this post, and a treasurer. They are: Duncan M. Jones, eastern Canada representative for Curtis Lighting of Canada, Ltd, vice president, and Kirk M. Reid, section head of General Electric Co's Engineering Division at Cleveland, treasurer.

Active in the society for more than 17 years, Strong is now completing a two-year term as national vice president. He was a director from 1944-46 and treasurer from 1948-50. He has been the society's representative on the National Research Council since 1946.

Committee Worker . . . Strong has served on many IES committees and is currently a member of its committees on education, research, and standards of quality and quantity for interior illumination. He also is a member of the committees on education of the American Institute of Electrical Engineers and the American Society for Engineering Education.

After graduating from Massachusetts Institute of Technology in 1922, the newly elected IES president spent two years as an illumination engineer for General Electric at its Nela Park. He also worked for the former Elmira (N. Y.) Light, Heat & Power Corp and Westinghouse Electric Corp.

Strong established the courses in illumination at Cornell a few years after joining the faculty in 1924. Since 1946 he has been supervisor of the Engineering Industrial Cooperative in the College of Engineering.

Regional VPs . . . Five of the society's ten regions now have new vice presidents. They are:

Leonard A. Hobbs, vice president in charge of sales and public relations, Smoot-Holman Co, Inglewood, Calif., South Pacific Coast Region.

W. J. Lind, manager, Lamp and Lighting Division, Canadian General Electric Co, Ltd, Vancouver, B. C., Pacific Northwest Region.

L. B. Paist, supervisor of lighting sales section, Minneapolis Division, Northern States Power Co, Midwestern Region.

George J. Taylor, Eastern sales manager, Day Brite Lighting, Inc, Northeastern Region.

Lester C. Twichell, manager commercial and industrial lighting, Rochester Gas & Electric Corp, Great Lakes Region.

•

Donald S. Bennett has been appointed power sales manager for Worcester County Electric Co, a subsidiary of New England Electric System, with headquarters at Worcester, Mass. Bennett succeeds **Fred E. Littlefield,** who has been transferred to NEES headquarters at Boston as power sales engineer. **Warren K. Lewellen** takes over for Bennett in the Mystic Valley area with headquarters located at Malden.

Richard M. Shepard has been appointed assistant operating superintendent of Niagara Mohawk Power Corp's Western Division. For the last two years he has served as assistant general superintendent of operations for Niagara Mohawk.

Line Material Appoints Rodgers Wheaton a VP

Rodgers G. Wheaton, sales manager for Line Material Co, Milwaukee, Wis., since 1951, has been appointed vice president in charge of marketing and sales. He succeeds Dale Swanson, who has resigned to accept an executive post with Asplundh Tree Expert Co of Jenkintown, Pa.

3 Others Advanced . . . Earle W. Williams, former sales promotion manager, replaces Wheaton as sales manager. A. R. Waehner fills Williams' position and Harold T. Zamzow, apparatus engineer in the Northwest district at Portland, moves into Waehner's place as manager of capacitor and railroad sales.

R. G. WHEATON

E. W. WILLIAMS

Wheaton joined the company in 1933 as a field engineer serving the

Springfield, Mass., territory. In 1941 he was chosen to handle some of L-M's government contract work, serving as ordnance engineer first at Philadelphia and later at East Stroudsburg, Pa.

He was promoted to manager of the Middle Atlantic Sales Division in 1944 and in 1948 became manager of the Eastern Sales Division, which was made up of the Middle and North Atlantic territories. Wheaton came to Milwaukee as sales manager in 1951 and worked closely with Swanson.

Began as Field Engineer . . . Williams started with L-M in 1937 as a field engineer. Later he served successively at the firm's Klye Plant as assistant chief engineer, assistant sales manager, and sales manager. He went to L-M's Milwaukee office in 1948 to fill the newly created post of sales promotion manager.

Waehner began with the company in 1937 as a field engineer. Before he left to serve three years with the Navy during World War II, he served as branch manager at St. Louis. Upon his return in 1945 he was made manager of capacitor sales. Railroad sales was added to his responsibilities in 1950.

When Zamzow joined the firm's Kyle Plant in 1947, he also started as a field engineer. Since 1948 he has been apparatus engineer for L-M's Mountain States Division.

Swanson came to L-M in 1926 and has filled the post of vice president since 1944. He recently acquired an interest in the Asplundh company and will serve as a director and vice president in charge of sales. The firm specializes in clearing and preparing rights-of-way for utility lines and railroads.

•

Paul L. Evans, who has been acting director of information for the Tennessee Valley Authority, has been named director to succeed the late William L. Sturdevant (EW, July 28 p 145).

Frazer W. Gay, senior engineer in the electric engineering department of Public Service Electric & Gas Co, Newark, N. J., has retired after 29 years' service with the utility. During World War II he served with the War Production Board, having charge of power supply for the aluminum, magnesium, and rubber programs.

Raymond Rich Appointed a Division VP by Philco

Raymond A. Rich has been named vice president of Philco Corp's Refrigeration Division. He will be responsible for the development and pricing of the company's refrigerators, freezers, electric ranges, and room air conditioners.

The company also appointed Harold W. Schaefer as vice president-engineering of the Refrigeration Division. Gerard E. Nistal was made advertising and sales promotion manager for the Government and Industrial Division.

Rich joined Philco in 1949 as product manager—electric ranges. A year after joining the company, he was made product manager and for the past year has been vice president—products of the Refrigeration Division.

Schaefer, who started with Philco in 1950, has been serving as director of refrigeration and range engineering since 1951. Prior to this he was special assistant to Leslie J. Woods, vice-president—director of research and engineering. Nistal, associated with the communications and electronic industries for almost ten years, was previously affiliated with the Radiomarine Corp of America and Lear, Inc.

N. Y. Engineering Firm Loses 2 Men Overseas

Thomas Stephen Burns, 61, chief engineer of design for the Athens office of Knappen-Tippetts-Abbett-McCarthy, New York consulting engineers, died July 7 in Athens, Greece. He joined the firm in 1951 and went to Greece where he had charge of final designs of construction of flood control, irrigation, and electric power projects being built in that country with American aid. Burns began his career in the hydraulic field with Northern New York Utilities, Inc, and during World War I served with the Army Corps of Engineers. In later years he worked on such projects as Safe Harbor Dam for Pennsylvania Water & Power Co and the Passamaquoddy Tide Power Station in Maine for the United States Engineer Department, with which he served for many years.

James B. Ward, 38, chief geologist for K-T-A-McC, died July 9 at Port-au-Prince, Haiti. Ward started his career with the technical staff of Tennessee Valley Authority as engineering geologist. He served with TVA ten years and was resident geologist on the construction of Hiwassee, Fort Loudoun, and Kentucky Dams. He went to Knappen-Tippetts in 1949. While with this firm, Ward had done research for dams in Greece, Turkey, Portugal, Venezuela and Haiti.

OBITUARY

Louis A. Buese

Louis Anton Buese, 65, senior vice president and executive engineer of Hawaiian Electric Co, died July 10 in Honolulu. A native of Republic, Mich., Buese attended the University of Michigan. Before going to Hawaii in 1937, he was a design engineer for the Los Angeles Department of Water & Power.

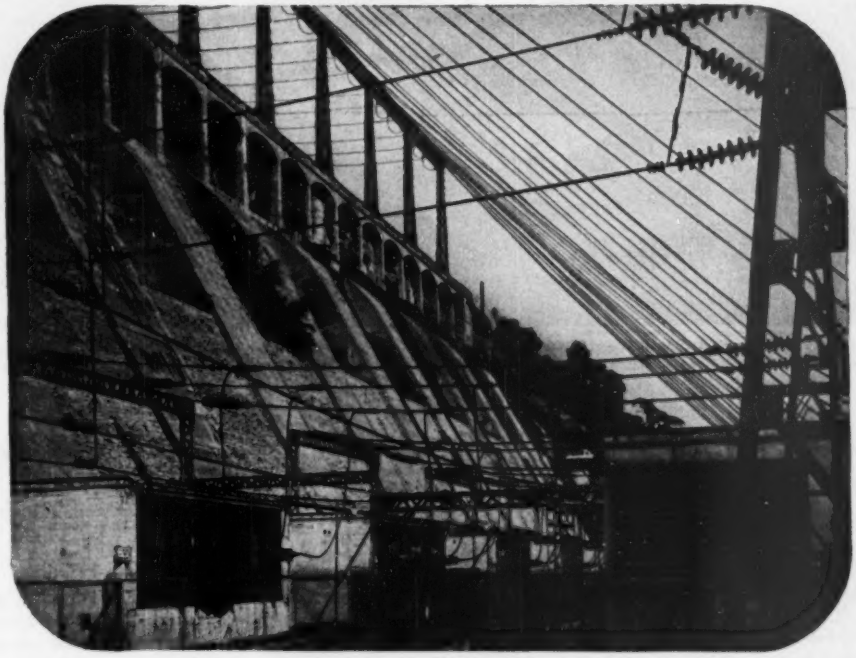
Buese had held the posts of vice president and executive engineer since November, 1945, when he also was made a director of Hawaiian Electric. He was in charge of engineering, construction, operations, and maintenance for the utility.

William L. Lewis, 68, president of Chicago Pneumatic Tool Co, New York, died recently at Westchester, N. Y. In 1930 he was elected vice president, secretary and treasurer of the firm and in 1946 he was appointed to the presidency of the Chicago tool firm.

Austin A. Cushing, 78, former superintendent of transmission for Eastern Massachusetts Electric Co, Salem, died at South Weymouth, Mass., July 18. He also served as superintendent of distribution for Beverly (Mass.) Gas & Electric Co, subsidiary of New England Electric System. Eastern Massachusetts was merged into New England Power Co, also a NEES subsidiary.

Franklin P. Wood, 77, retired head of the Rural Electrification Administration's power management section died July 18 at Washington, D. C. Wood, who assumed the power section post in 1948, had been a consultant to non-profit power suppliers since his retirement in 1949. He joined REA in 1936.

V. C. CABLE



Specify Roebling V. C. Cable for top resistance to heat, oil and grease

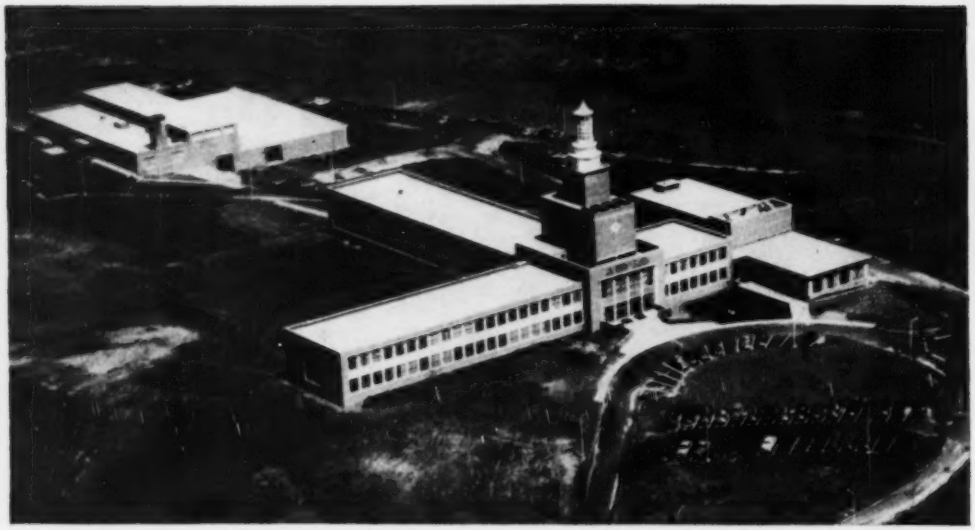
THROUGH continual laboratory developments and progressive manufacturing methods, Roebling Varnished Cambric Cable has been constantly improved. Today this cable has absolutely top resistance to heat, oil and grease . . . and it's the most dependable cable you can use for leads on generators, transformers, motor and oil switches, and for general distribution of heavy power loads in manufacturing and industrial plants.

Roebling V.C. is made in single conductor sizes from 2,000,000 C.M. to #14 A.W.G.; in multiple conductor sizes from 750,000 C.M. to #14 A.W.G. Recommended for use to 17,000v between phases in single or multiple conductor construction; and to 26,000v for single conductor grounded neutral.

Large quantities of Roebling's complete wire and cable line are now required for rearmament. We and our distributors will, however, do all that we can to meet your needs. John A. Roebling's Sons Company, Trenton 2, N. J.

ROEBLING

ATLANTA, 934 AVON AVE • BOSTON, 51 SLEEPER ST & 5 PITTSBURGH ST • CHICAGO, 5525 W. ROOSEVELT RD • CINCINNATI, 2352 FREDONIA AVE • CLEVELAND, 701 ST. CLAIR AVE, N. E. • DENVER, 4801 JACKSON ST • DETROIT, 918 FISHER BLDG • HOUSTON, 6216 NAVIGATION BLVD • LOS ANGELES, 5340 E. HARBOR ST & 130 S. HEWITT ST • NEW YORK, 19 RECTOR ST • ODESSA, TEXAS, 1920 E. 2ND ST • PHILADELPHIA, 230 VINE ST • PITTSBURGH 1301 CLARK BLDG • ROCHESTER, 1 FLINT ST • SAN FRANCISCO, 1740 17TH ST • SEATTLE, 900 1ST AVE S. • ST. LOUIS, 3001 DELMAR BLVD • TULSA, 321 N. CHEYENNE ST • EXPORT SALES OFFICE, TRENTON 2, NEW JERSEY



AERIAL VIEW of Connecticut Light & Power Co's new general headquarters at Berlin shows the administration building in the foreground and the service building at rear left. Ample parking facilities for the care of employees and visitors are provided at both of the new buildings

Now the Lines of Connecticut Light &

Utility moves its staff activities from Waterbury and

Picking a spot near the geographical center of the state in which it operates, Connecticut Light & Power Co has centralized its staff activities in a new general headquarters at Berlin. The company had maintained offices in Hartford and Waterbury.

The new headquarters comprises an administration building of modified colonial design and a service building of simpler design. It provides abundant working space for 250 employees in a country club setting.

Designed for Efficiency . . . Offices have grouped together in the new two-story administration building in a way to promote efficiency. Engineering operations are located almost entirely in one wing of the second floor of the building. Included are the engineering and general operating departments, the drafting room, and the load dispatcher's office. Close by are

LIGHT AND SPACE are plentiful in the drafting room section of the engineering department. All technical personnel are on same floor

EMPLOYEES' LOUNGE is a sunny, comfortable room offering a southerly view where personnel may read and relax during off-duty hours

MAIN ENTRANCE of the new headquarters building follows a modified colonial design

UTILITY PLANT Department occupies one of the largest rooms in the Berlin Building. Working space for 22 employees, who keep track of plant accounts, is provided in spacious room

Power Co Lead Out from Berlin

Hartford to a town near the geographic center of state

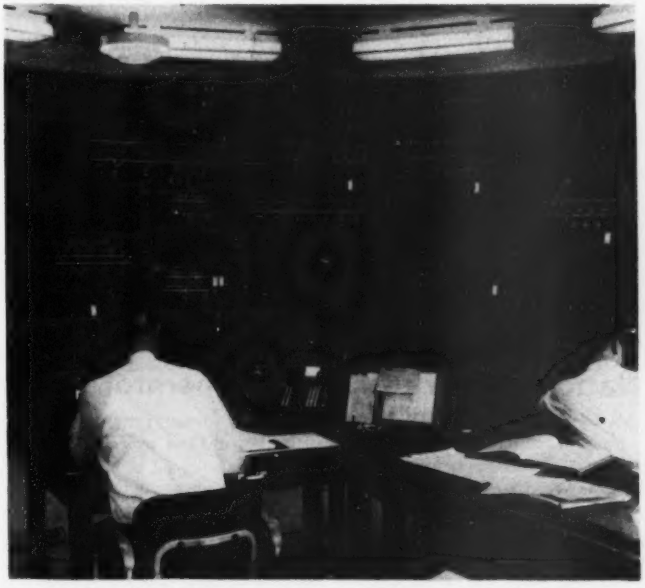
offices of the utility company's executives.

On the first floor of the building are the accounting, purchasing, sales, and public relations departments. Also on this floor are an employees' lounge and cafeteria and an auditorium that can seat 200 persons.

The two-story service building provides testing and laboratory space for the General Test Department. The building also houses automobile repair and maintenance equipment, the boiler plant, and pump house.

New Landmark . . . Topping the administration building is a masonry tower that is lighted at night, providing the area with a new landmark. The tower encloses the exhaust ventilating system, fan equipment, main water storage tank, the large cooling tower for the air conditioning system, and the elevator machinery.

Despite the transfer of activities to Berlin, the utility's mailing address will be Post Office Box 2010, Hartford, Conn.



LOAD DISPATCHING headquarters in the new administration building is up-to-date and efficient. Here load dispatchers work around the clock and control state-wide plant operation

Life Without Power No Picnic

South River, N. J., finds on-off service inconvenient after generator failure. Mobile unit helps ease shortage

Power service was back to normal in South River, N. J., after a near blackout and intermittent service which caused 11,500 residents of the community to realize how miserable life can be without electricity.

The trouble began July 18 when an 800-lb piston broke in a 1,100-kw diesel generator at the municipal power plant. Rationing was necessary to spread the power from the remaining three units around. A measure of relief was achieved when Caterpillar Tractor Co of Peoria, Ill., scored an assist by offering the city use of a 315-kw mobile unit located at Fort Monmouth. The unit was tied in with the city's system a week after the breakdown occurred.

The damaged unit was repaired and placed back in service July 28. Repair of the generator was delayed by a truck strike in St. Louis, where the new parts were ordered. The equipment was rushed to the city by air freight.

Rationing was in effect for four days. Each neighborhood received power for an hour or so at a time. Two industrial plants closed down for three days during the emergency to ease the demand for power. Service during evenings improved when load dropped.

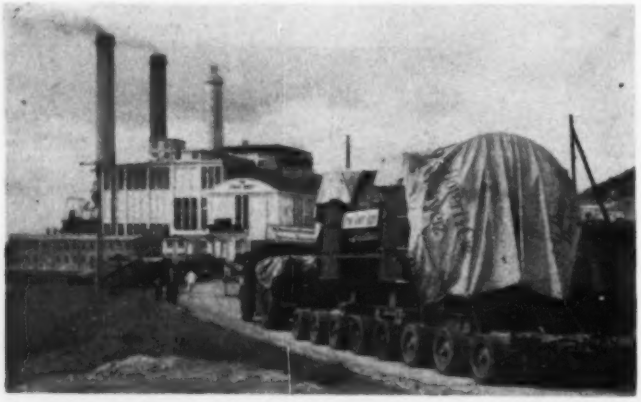
Some of the casualties of the breakdown included dentists who couldn't use their drills, banks whose electric bookkeeping machinery stopped performing, housewives whose refrigerators stayed cold only a few hours at a time, and a great many residents of the Democratic city who saw only snatches of the Democratic National Convention on television.

Utility May Get $700,000

Empire District Electric Co of Joplin, Mo., may receive up to $700,000 for construction of protective works for its Ozark Beach Power Plant under a law signed July 16 by President Truman.

The protective works are necessary to prevent damages which would result from backwater of the nearly complete Bull Shoals Reservoir.

Army Corps of Engineers is building Bull Shoals and has approved payment of an amount not exceeding $700,000 to Empire District Electric.



Nations Unite to Haul a Generator

A Swiss manufacturer got an assist from German railroad experts in transporting a 100-ton generator to the Kyndby Power Plant near Copenhagen, Denmark. The Danish plant is being expanded with the aid of Marshall Plan dollars. When work is completed the plant will have a capacity of 210,000 kw.

It took a week to move the 100-ton generator through Germany by railroad from the Brown Boveri factory in Baden, Switzerland. At Copenhagen it was transferred to a specially constructed German trailer with 32 wheels, and one heavy-duty truck was assigned to tow it while two others pushed during the 30-mile trip to the Kyndby Plant. The caravan, 121 ft long, weighed 176 tons, necessitating several detours to circumvent weak bridges and low viaducts.

POWER BRIEFS

● Illinois Power Co has purchased about 2,000 acres of land along the North Fork of the Vermilion River, northwest of Danville, Ill., as a site for a new generating station. The plant's first unit probably will have a capacity of 75,000 kw, according to E. S. Hight, vice president. He added that total capacity of the station had not been decided upon.

● Pennsylvania Railroad is having a new 800-ft curved bridge built over the Delaware River near Martins Creek, Pa., to facilitate rail deliveries of coal for Pennsylvania Power & Light Co's new power plant at Martins Creek.

● Dayton Power & Light Co has been authorized to furnish electrical power to the city of Wapakoneta, Ohio. The action was taken by the Wapakoneta city council. For nearly three decades the city had been obtaining its power from Central Light & Power Co.

● Four electric utilities in Utah have granted a $7,800 to Utah State Agricultural College for "research concerning the optimum use of electricity on farms in the state." The utilities are Utah Power & Light Co, Southern Utah Power Co, Telluride Power Co, and Utah Power & Light Co.

● The steam plant Tennessee Valley Authority plans to build near Rogersville, Tenn., on the south shore of the Holston River will be named for John Sevier, first governor of the state. The $67-million station will have a rated capacity of 180,000 kw.

● Second award in a series of five scholarships offered last year by New Jersey Utilities Association went to Robert A. Husted of Spring Lake, N. J., who is majoring in electrical engineering. The $500 annual scholarship, awarded to seniors in engineering at Rutgers University, is granted on the basis of intellect and personality "giving promise to worthwhile achievement."

MEETINGS

AIEE Plans Microwave Talks

Discussion of subject as related to electric power field is scheduled for institute's Pacific General Meeting

Microwaves in the electric power field will be discussed at the Pacific General Meeting of the American Institute of Electrical Engineers scheduled for Aug. 19-22 at Hotel Westward Ho, Phoenix, Ariz. The topic will be handled by W. A. Derr, H. W. Lensner, and D. F. Burnside, Westinghouse Electric Corp.

Other microwave applications will be revealed by Otto Mangum, U. S. Bureau of Reclamation. His talk will be directed at carrier current equipment operation and maintenance on a large system.

Plan District Parley, Too . . . A feature of the meeting will be the annual session of the Pacific District of the institute, which is comprised of Arizona, California and Nevada.

Technical sessions and symposiums have been planned on power generation and lighting, industrial power systems, metering and relaying, feedback control systems, safety, and western mining applications.

In the transmission and distribution session, field tests on 135-kv, 3.5 million-kva, low oil content circuit breakers will be explained by Paul Wildi, W. H. Clagett, and Lloyd Morgan, Pacific Oerlikon Co. Martin J. Lantz, Bonneville Power Administration, will talk about the application of transmission line mutual impedance equivalent circuits.

Transformer Session . . . Loading of transformers by copper temperature is the topic W. L. Carey, Portland General Electric Co, will discuss at the session on transformers.

The Davis Dam Power Development will be reviewed at the system engineering symposium by S. M. Denton and H. O. Britt, both of the U. S. Bureau of Reclamation. At this same session the influence of power system design on protection relaying will be analyzed by J. L. Blackburn, Westinghouse Electric.

At the industrial power sytem session, Carl Graver, University of California, will speak on power supply for the nuclear research laboratory.

Attention will be directed at the 30,000-kw Kyrene Steam Plant in the power generation session. The Salt River Power District's outdoor steam plant, designed for the Southwest climatic and operating conditions, will be discussed by T. M. Morong, E. J. Lauerman, Salt River Power District, and I. R. Caraco, Bechtel Corp. B. S. Benson, Jr, Benjamin Electric Co, will talk about the engineering aspects of illumination at this session.

E. C. Hunt, Pacific Gas & Electric Co, will emphasize the design engineers' responsibility for safety at the meeting's safety symposium.

AIEE Head to Speak . . . H. B. Sargent, president, Arizona Public Service Co, will speak at the general session set for Aug. 19. His topic will be "Industrial Growth in Arizona." Donald A. Quarles, president of AIEE, also will address the general session.

Area Development Parley Slated by EEI Committee

Edison Electric Institute's Area Development Committee will sponsor an Area Development Institute at Yale University this fall to discuss problems affecting utilities in northeastern United States.

The three-day meeting is scheduled for Sept. 9-11. Utility companies anywhere in the country have been invited to send representatives.

The institute is an outgrowth of five regional conferences sponsored by the Rural and Urban Development Committee (now the Area Development Committee) during the years 1950 and 1951.

The conference will be devoted to problems in civic, industrial, recreational, natural resources, and agricultural developments as they relate to utility company programs. The Area Development Committee, headed by J. Frank Gaskill, Philadelphia Electric Co, has arranged for talks by experts in these fields. The institute will be set up on a panel basis.

CALENDAR

American Institute of Electrical Engineers
Pacific General Meeting, Hotel Westward Ho, Phoenix, Ariz., Aug. 19-22; Middle Eastern District Meeting, Commodore Perry Hotel, Toledo, Ohio, Oct. 28-30.

***Centennial of Engineering**
Convocation, Chicago, Ill., Sept. 2-13.

Maryland Utilities Association
Cavalier Hotel, Virginia Beach, Va., Sept. 5-6.

Rocky Mountain Electrical League
Fall Convention, Colorado Hotel, Glenwood Springs, Colo., Sept. 7-10.

American Standards Association
National Standardization Conference in conjunction with Centennial of Engineering, Museum of Science-Industry, Chicago, Ill., Sept. 8-10; 34th Annual Meeting, Waldorf-Astoria Hotel, New York, Nov. 19.

American Society of Mechanical Engineers
Fall Meeting, Sheraton Hotel, Chicago, Ill., Sept. 8-11.

Illuminating Engineering Society
National Technical Conference, Edgewater Beach Hotel, Chicago, Ill., Sept. 8-12.

Instrument Society of America
7th National Instrument Conference-Exhibit, Cleveland Auditorium, Cleveland, Ohio, Sept. 8-12.

Edison Electric Institute
Accident Prevention Committee, Sheraton Hotel, Rochester, N. Y., Sept. 15-16; Prime Movers Committee, Roosevelt Hotel, New Orleans, La., Oct. 6-7; AEIC joint meeting, Meter-Service Committees, Mayflower Hotel, Washington, D. C., Oct. 6-8; Electrical Equipment Committee, Roosevelt Hotel, New York, Oct. 13-14; Transmission - Distribution Committee, Hotel Adolphus, Dallas, Tex., Oct. 23-24.

Pennsylvania Electric Association
Annual Meeting, William Penn Hotel, Pittsburgh, Pa., Sept. 16-17; Fall Meeting, Meter Committee, Fort Stanwix Hotel, Johnstown, Pa., Oct. 23-24.

Northwest Public Power Association
Accounting Section, Congress Hotel, Portland, Ore., Sept. 18-19.

Public Information Program
Annual Workshop Conference, Edgewater Beach Hotel, Chicago, Ill., Sept. 18-19.

Public Utilities Association of the Virginias
Greenbrier Hotel, White Sulphur Springs, W. Va., Sept. 19-20.

Southeastern Electric Exchange
Fall Meeting, Engineering - Operation Section, Atlanta Biltmore Hotel, Atlanta, Ga., Sept. 25-26; Accounting Conference, Jung Hotel, New Orleans, La., Oct. 16-17; Sales Conference, Thomas Jefferson Hotel, Birmingham, Ala., Oct. 29-31.

National Electronics Conference
8th Annual Conference, Sherman Hotel, Chicago, Ill., Sept. 29-30 and Oct. 1.

Wisconsin Utilities Association
Convention of Technical-Sales Sections, Schroeder Hotel, Milwaukee, Wis., Oct. 1-3.

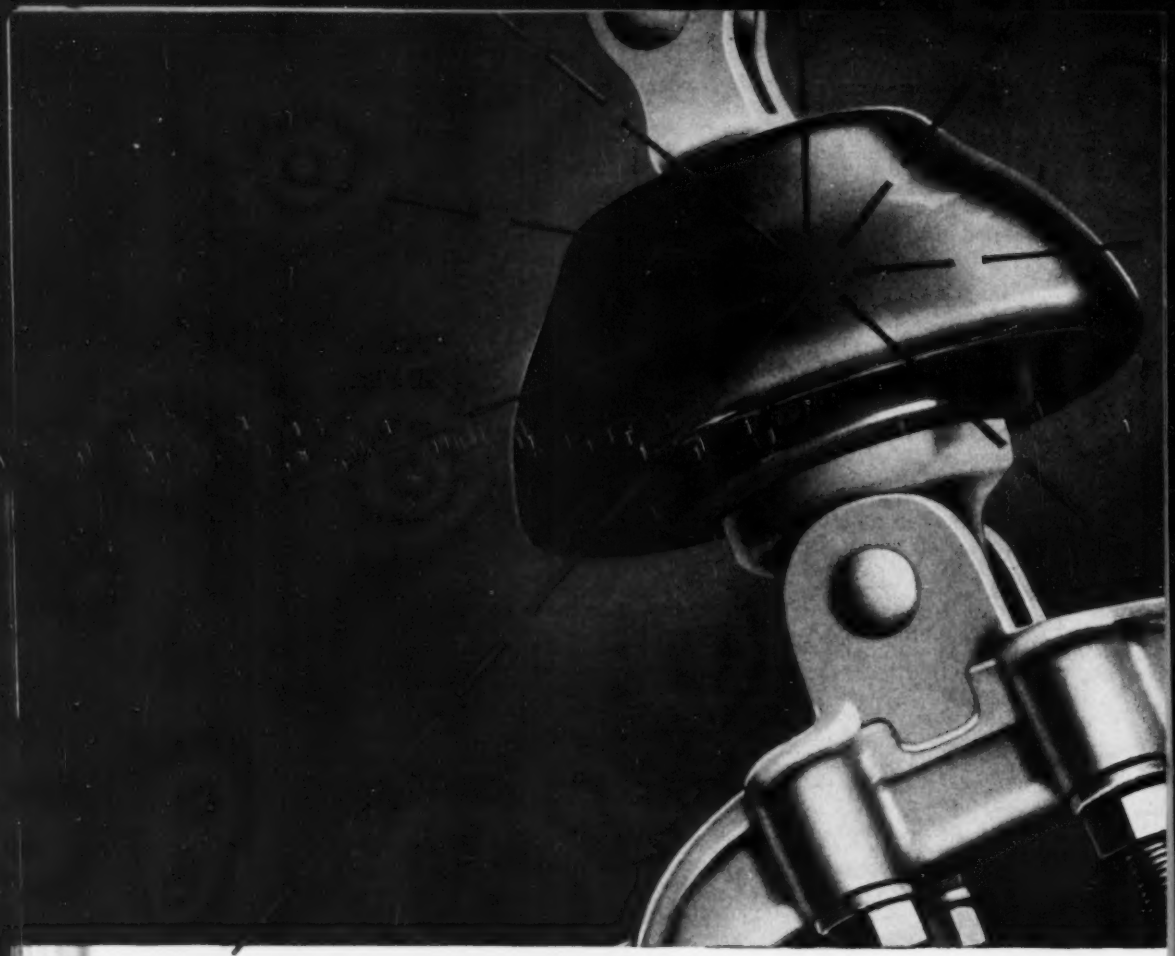
Iowa Utilities Association
Management Conference, Fort Des Moines Hotel, Des Moines, Oct. 6-7.

Indiana Electric Association
Annual Convention, French Lick Springs Hotel, French Lick, Ind., Oct. 8-10.

National Farm Electrification Conference
Statler Hotel, Detroit, Mich., Oct. 20-21.

National Electrical Manufacturers Association
Annual Meeting, Haddon Hall Hotel, Atlantic City, N. J., Nov. 10-13.

* Addition this week.



Shoots J-D "Bronco" Insulator 49 Times—No Failure!

by **W. V. SWAN**, Manager, Porcelain Sales, Line Material Company

L-M's J-D "Bronco" is a big, rugged insulator with a heavier and stronger porcelain body than the conventional suspension insulator. Therefore it is more resistant to breakage caused by rough handling or amateur sharpshooters.

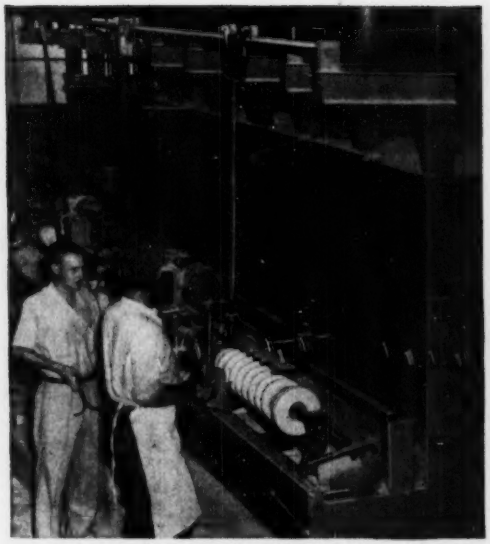
The gun-fire test was made to determine whether a standard "Bronco" insulator would flash over or pull apart while under gun fire. A regular production sample was suspended from an insulated post, under load. A hot 20,000-volt line was connected to the top terminal, and the bottom terminal was grounded.

From a distance of 15 feet, 22-calibre long rifle shells were fired directly at the insulator. After 49 shots, the insulator had not flashed over or pulled apart; and there was no appreciable damage, as shown in the photograph at the right. The insulator was then tested. It still had its original mechanical strength of 10,000 pounds. Dry flashover had dropped only from 60,000 to 45,000 volts, still high enough to carry its normal line voltage.

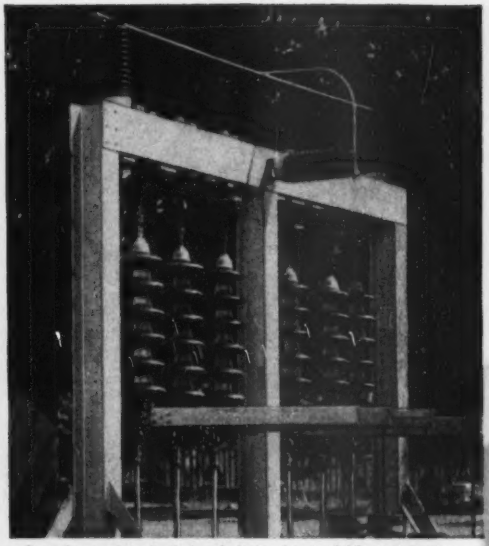
Seldom does any insulator have to take this sort of test. Yet the fact that the "Bronco" could take it shows its exceptional ruggedness. That is why one major utility company standardizes on the J-D "Bronco."

"Controlled Quality" Produces Better Insulators

At the J-D plant, quality is closely controlled through inspection of raw materials, constant check on production processes, and thorough inspection and testing of finished goods.



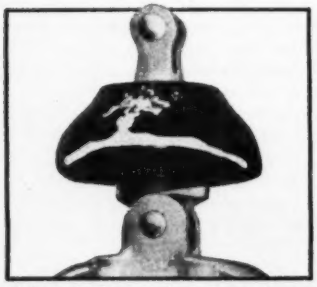
Quality is carefully controlled and checked, all through the production process. Before firing, molded and dried porcelain is carefully machined or trimmed to the required size and shape. At the same time it is inspected, and any imperfect specimens are eliminated.



One of several mechanical and electrical tests of J-D strain insulators. All strain insulators are given the "M&E" test as a regular part of the production schedule, and a certain number of each batch are put through a rigid complete destruction test.

J-D has made many contributions to quality control in electrical porcelain. The tunnel kiln is a J-D development. This kiln consists of a tunnel about 200 feet long, in which firing temperatures can be closely controlled. Cars of porcelain move slowly through this kiln, at controlled speeds, with closely controlled temperatures. Firing is so even that internal stresses are almost completely eliminated. This is one reason for the ruggedness shown by J-D insulators.

Another J-D contribution is the fuchine dye test. This is a method for determining the porosity of the porcelain—which in turn determines the strength and insulating value of electrical porcelain. In this test, unglazed porcelain fragments are dipped into the dye under controlled time and pressure. Then a section is broken from the specimen. Any penetration of the dye indicates a porous structure, which is weak. If the dye does not penetrate, the structure is dense, and strong.



SHOT 49 TIMES—and this is all the damage caused by 22-cal. long rifle cartridges! The insulator still has its original mechanical strength, and dry flashover dropped only from 60,000 to 45,000 volts, still ample to carry the load.

First Porcelain-Housed Cutout

J-D was the first to make a wet-process fuse cutout box, originated in 1926 by Line Material. Prior to that time, cutouts had been housed in wooden "birdhouses." L-M conceived the idea of a porcelain housing, which would provide greater protection and better insulation, and went to J-D with the problem. Today the porcelain housing is, of course, standard in the industry.

Complete Line of Porcelain and Hardware

L-M offers a complete line of J-D insulators, fittings, and hardware. These products amply meet all EEI and NEMA standard specifications. *Every insulator* is given a tensile strength test and flashover test, in addition to other regular inspections. For complete information about L-M's line of J-D products, ask the L-M Field Engineer, or write Mr. Swan at Line Material Company, Jeffery-DeWitt plant, Kenova, W. Virginia (a McGraw Electric Company Division). 93

LINE MATERIAL

Electrical Porcelain Insulators

LM J-D

DEMONSTRATOR Myron D. Miller tells a service club audience: "The reading on this voltmeter shows rate of which the meter turns."

"Hot Wires" Spreads Like Wildfire

Adequate wiring demonstration sponsored by Ohio Edison proves hit with youngsters, and organizations of all interests. Fifty-six thousand hear lectures during first three years

EVEN FIRE FIGHTERS discover they can receive a few helpful pointers from the "Hot Wires" demonstrator

MYRON D. MILLER, Ohio Edison Co

That poor and expensive service may result from their own poor home wiring has been brought home more vividly to thousands of customers of the Ohio Edison Company during the past three years. The gimmick used is a dramatic demonstration of how safety and economy can be provided by proper and adequate wiring.

Entitled "Hot Wires," the demonstration has caught on since it was inaugurated three years ago, and given its name by the then president of the Massillon, Ohio, Kiwanis Club. It has been shown to over 85 groups with a total attendance of over 56,000. During the last nine months, alone, average monthly attendance has been over 5,000.

Previous to this year, large audiences were frowned upon, but the lapel microphone, plus some added explanations for those who cannot see some of the small details, has made it possible to give satisfactory demonstrations to over 1,000 persons at a time. However, most of the

"THESE TWO pieces of toast cost the same—If the wiring is right, you get what you paid for; if not, you get a bare piece of bread"

Through Ohio

groups number less than 65, and G.I. farmers classes are limited to 25.

Although the program was first planned and actually used with 4-H clubs, it was soon discovered that all the boys and girls of high school age could be told the Hot Wires story through school assemblies. Where the superintendent of schools is cooperative, every rural student in a whole county can get 50 minutes of instruction on proper wiring. Such coverage extends into urban areas, as is illustrated by the fact that during one week 9,000 Youngstown high school youngsters turned out to hear the lecture.

The program is also in great demand among service clubs. Over 40 Kiwanis Clubs, alone, have had the benefit of the lecture. In fact, the list of organizations that have asked for the program is notable for its variety. It includes women's clubs, fire departments, insurance firms, home economists, real estate boards, church and fraternal organizations, foreman clubs, labor unions, college classes, electrical dealers, and many other civic and business groups.

The demonstration's usefulness was underscored recently, when the Home Accidents Preventions Unit of the Federal Security Agency, wrote, in part, to Ohio Edison officials:

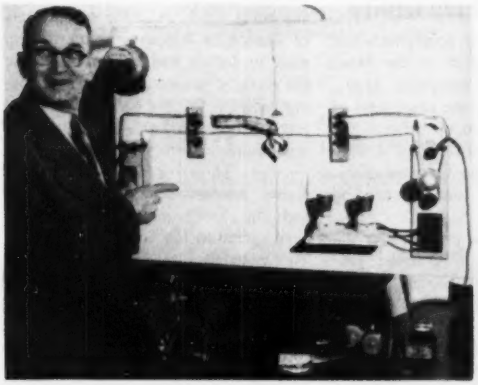
"Please accept our appreciation for a very interesting and instructive demonstration on the possible hazards that might result from the improper use of electrical appliances and outlets within the home. Your demonstration is the best we have seen on the subject of electrical safety in the home."

How much the schools value it was demonstrated recently when a high school teacher wrote:

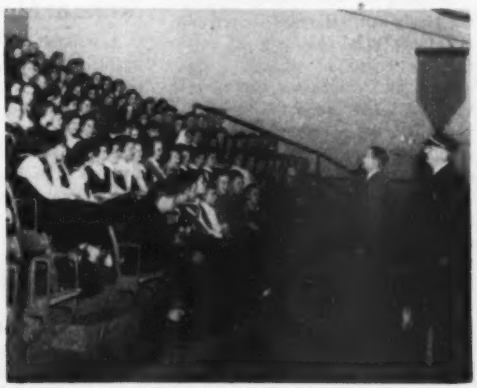
"Will you please relay to the proper department this expression for the program, 'Hot Wires.' As a science teacher, I try to put across some of those ideas, but can't reach the whole school, nor with such up-to-date, extensive demonstrations and information. Many other teachers have mentioned since seeing the demonstration that they have become more conscious of wiring hazards, and conversation with individual pupils indicate that the same is true of some of them."

As to its entertainment value, the Lisbon Ohio Journal says: "Ohio Edison has developed the program with a view of taking the mystery out of electricity—it is educational, but highly entertaining."

Thus, in establishing a program with a strong appeal to young and old alike, Ohio Edison has built up good will for itself—as well as indirect revenue.



"THIS WOULDN'T have happened if we had used the proper fuse instead of the penny," Miller tells a school-age group. Among his younger audiences have been grammar school children such as those above who came in all the way from Sandusky



INDUSTRIAL RELATIONS

Boston Edison Raises Wages

Company begins paying part of 9% increase granted nearly 3,000 employees; asks WSB approval of remainder

Boston Edison Co has begun paying nearly 3,000 of its employees, members of the Utility Workers Union of America, CIO, 5% of a 9% wage increase fixed recently by arbitration. Wage Stabilization Board approval is being sought for the other 4%.

The company last week still was negotiating a wage settlement with Local 386, UWUA, professional unit made up of 100 engineers and draftsmen, and with 34 members of Local 10, Independent Union of Plant Protection Employees.

No fringe benefits have been involved in any of the discussions which were opened in March in accordance with labor contract provisions for review of wages at that time.

Award Made June 19 . . . The first award by an arbitration board was made on June 19 and applied to about 1,900 production and maintenance workers belonging to Local 369, UWUA. Hearings were held at the company's office on April 18 and concluded on May 7.

The board, after meeting in executive session on June 17 and 18, ruled that all of the rates in the current hourly pay schedule for Local 369 be adjusted upward by 9%, rounded off to the nearest 1¢. It has been estimated that this will average 15¢ per hour for the members of this local.

Heading the board was Prof James J. Healy of Harvard University. F. Manly Ives, chairman of Boston Edison's board of directors, represented the company, and Joseph Fisher, UWUA president, labor. The board was designated under terms of a 1950 agreement between the two parties.

The second award by arbitration covers about 1,000 office and clerical employees, members of Local 387, UWUA. A special board headed by Saul Wallen, Boston, also ruled that wages should be increased 9%. The award was announced July 16.

Announcements of the arbitration boards' findings were made by Arthur J. McEachern, Boston Edison's vice president in charge of employee relations, and R. H. Cook, president of Local 369 in the one case, and McEachern and Valentine P. Murphy, president of Local 387, in the other.

During all the negotiations, operations of the company proceeded without interruption.

IBEW Apartment House in Capital Fully Occupied

Washington's newest air-conditioned apartment building is an eight-story, 556-unit structure built for the AFL International Brotherhood of Electrical Workers.

Fully occupied, it is located close to downtown section, next to the IBEW's eight-story office building.

Legal owner is not the union, but 1500 Massachusetts Avenue, Inc, which is the building's address. However, the stock is wholly owned by the Electrical Workers Benefit Association, of which 250,000 of IBEW's 450,000 duespayers are members. Dan W. Tracy is the president and J. Scott Milne the secretary of all three organizations.

The building was built so that it could be converted to a hotel. There is a $4,424,800 FHA-insured mortgage on the property.

Proposed Contract Averts Strike at Montaup Utility

A walkout of 168 production and maintenance employees of the Montaup Electric Co, Somerset, Mass., has been averted by the provisions of a new contract drawn up between the company and Local 396 of Utility Workers Union of America, CIO. Negotiations have been proceeding since Mar. 20.

The contract now proposed is the first obtained by the CIO union, previous bargaining having been through the Brotherhood of Utility Workers of New England, an independent union. Subject to ratification by the Montaup local, the contract will establish a 13.5% wage increase. Of this, 5% is retroactive to Jan. 1, 1951 and the balance from Jan. 1, 1952. The contract dates from May 15, 1952 to May 15, 1953.

Among its provisions are a pension plan covering a maximum payment after 25 years' service of $60 per month exclusive of Social Security and other benefits. Seniority among workers will date back to Oct. 1, 1950. A premium of 6 hours' overtime pay has been established for call-back work. A no-strike, no-lockout provision is included in the agreement draft. Job specifications for electrical and mechanical maintenance workers are to be discussed between the union and the management before becoming effective.

Massachusetts and federal government conciliators participated in the final discussions before the threatened strike.

LABOR BRIEFS

Recent Wage Settlement—Consumers Power Co has granted cost-of-living increases to office and clerical workers averaging 3.91¢ per hour. Michigan Wage Stabilization Board has approved the boosts . . . West Penn Power and Utility Workers Union of America, CIO, have agreed to 6.17% general wage increase (minimum of 9¢ and maximum of 13¢ per hour). In addition another 1.78¢ an hour was granted to iron out some wage inequities.

W. F. Patterson, director of the U. S. Department of Labor's Bureau of Apprenticeship has announced that facilities of the bureau's field offices are being made available to sponsors of apprentice training programs who wish to certify their programs under the recent Presidential order authorizing requests for the deferment of apprentices who meet Selective Service regulations.

Kaiser Aluminum & Chemical Corp and the Steelworkers Union, CIO, have agreed to 16¢ an hour wage hike. The contract also carries a productivity clause providing for an extra 4¢ an hour wage increase starting July 1. The other wage increases are retroactive to Jan. 1, 1952, and the contract runs until July 1, 1954. It can be reopened for a wage review on July 1, 1953.

This Allis-Chalmers installation, both transformers and circuit breakers, is equipped throughout with O-B bushings. Every element of reliability was taken into account in this major switching station serving one of the South's heaviest load centers.

Illustrated in detail is a row of typical breakers whose characteristics are: "Rating, 600-1200 amperes, 69 kv, 1,500,000 kva interrupting capacity; frame-mounted, pneumatically-operated, three-pole, single-throw. All equipped with . . . . ."

BUSHINGS ONE OF THE FINEST COMPONENTS OF *ANY* CIRCUIT BREAKER

Ohio Brass

MANSFIELD • OHIO

4234-H

SEC Asks: Who's an 'Officer'?

Proposed rule change stirs protests from company executives who believe new definition would be too loose

Securities and Exchange Commission, which is pretty well accustomed to juggling hot potatoes, has another one on its hands.

This one is a proposal to broaden the definition of a company "officer" in rules drawn up to carry out the 1934 Securities Exchange Act. The proposed amendment, to Rule-X-3B-2, was announced June 18 by SEC. Interested persons were invited to file their comments on the proposed change by July 18.

Heated Protests . . . Last week, with the July 18 deadline already past, heated protests against the rule change in form of letters and telegrams were still coming in. SEC relaxed its deadline and promised that comments received would be considered up until the commission began deciding the matter. A number of these protests came from electric utilities.

Purpose of the section of the act on which the regulations are based is to prevent officers of a company from using "inside" information to turn a quick profit in trading the companies equity securities. The regulation requires each company officer, and any other corporate employee performing executive duties similar to an officer, to report his holdings of the company's equities and subsequent transactions in these equities.

Short-Term Profits . . . Under this rule, short-term (six months or less) trading profits earned by an officer on company securities are recoverable by the company.

The rule at present defines an "officer" to mean "a president, vice president, treasurer, secretary, comptroller, and any other person who performs for an issuer, whether incorporated or unincorporated, functions corresponding to those performed by the foregoing officers."

The text of the proposed Rule X-3B-2 is as follows:

The term "officer" means a president, vice president, treasurer, secretary, comptroller, and any other corporate employee performing executive duties of such character that he would be likely, in discharging his duties, to obtain confidential information about his company's affairs, and any other person who performs for an issuer, whether incorporated or unincorporated, functions corresponding to those performed by any of the foregoing persons.

It is understood this change arose from the Colby vs Klune case in the Circuit Court of Appeals, 2nd District (Judge Jerome Frank). This case has been remanded to the lower court and is expected to come up for trial in the latter part of 1952. The SEC notice states that the proposed amendment would adopt the view expressed by the court.

Protests coming into the commission are mostly from company executives already included in the definition. These executives argue that the proposed amendment needs clarification and some sort of limit as to the persons which would be included under the definition of an officer. They also argue that the present liability under the rule is sufficiently broad, and there is no need to extend it.

It now appears there will be no decision on the proposed amendment before the fall.

Utilities Get Big Share of Fast Tax Write-Offs

Electric power expansion ranks third among the industry programs being assisted by government-issued certificates of necessity.

These certificates, issued by Defense Production Administration, are for the purpose of stepping-up industrial expansion to meet defense demands. They permit companies to amortize for tax purposes the cost of certified projects over a five-year period, rather than the usual 25-year period.

Only the iron and steel industry with certificates covering $3.3 billion worth of expansion, and railroad operating equipment manufacturers with certificates covering $2 billion worth of expansion, outrank the electric power industry, which has certificates covering $1.9 billion worth of expansion.

These figures come from a DPA report based on data available at the end of the first quarter of this year. The report estimated that about half of the certified expansion in the electric power field would be in place by June 30 of this year. This would be a gain of 8% over figures available at the end of the first quarter.

As of mid-July, DPA had approved some 445 electric power projects for certificates of necessity. These projects are estimated to increase the nation's installed capacity by some 18.3 million kw. Their total cost is estimated at $3.1 billion.

At the end of the first quarter construction on certified electric power projects was running about 7% ahead of schedules. General industrial expansion covered by necessity certificates was lagging some 11% behind scheduled as of March 31, the DPA report showed.

SEC Approves New Plan for NAUS Corp Dissolution

Securities and Exchange Commission has approved the amended plan for the liquidation and dissolution of North American Utilities Securities Corp, investment company subsidiary of The North American Co.

The amended plan, reflecting the results of a compromise agreement with the Protective Committee for the Public Holders of the Common Stock of NAUSCorp, provides for a cash payment of $9 a share to holders of the 90,397 shares of publicly held common stock of NAUSCorp. North American holds the remaining 376,-151 shares (80.6%) of NAUSCorp common, together with all the 60,000 outstanding shares of second preferred stock.

Under the amended plan, the remaining assets of NAUSCorp are to be distributed to North American as holder of the second preferred stock and the remaining shares of common stock, following which NAUSCorp is to be dissolved. The plan will become effective upon approval by the U. S. District Court in Baltimore, Md., to which the SEC will apply for its enforcement.

Today in Utility Finance

YIELDS (%)

Quality	Bonds			Preferred Stocks			Common Stock		
	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd
DATE									
1952									
July 24	**2.96**	**3.01**	**3.11**	**4.08**	**4.28**	**4.61**	**5.38**	**5.80**	**6.25**
July 17	2.96	3.00	3.11	4.09	4.29	4.62	5.39	5.84	6.35
2nd 1952	2.95	3.00	3.09	4.05	4.31	4.60	5.38	5.85	6.42
1st 1952	2.95	2.99	3.13	4.11	4.29	4.66	5.35	6.03	6.47
4th 1951	3.02	3.07	3.21	4.32	4.50	4.91	5.42	6.18	6.84
3rd 1951	2.87	2.91	3.04	4.05	4.27	4.61	5.52	6.24	7.05

Data: Reis & Chandler, Inc.

EARNINGS

Company	Period Months Ended		Net Income 1952	Net Income 1951	Earnings Per Common Share 1952	Earnings Per Common Share 1951
Alabama Power, consolidated	12	June	$11,613,661	$10,295,076	$	$
Detroit Edison	12	June	15,785,703	15,903,194	1.70(a)	1.97(a)
Florida Power & Light	12	June	6,902,962	6,353,745	2.54	2.40
Georgia Power	12	June	11,081,352	9,338,176	....	....
Gulf Power	12	June	1,505,873	1,117,439	....	....
Iowa Southern Utilities	12	June	832,038	876,964	1.21(b)	1.85(b)
Middle South Utilities, consolidated	12	June	11,973,778	10,355,426	1.93(c)	1.81(c)
Mississippi Power	12	June	1,930,851	1,707,264	....	....
Mountain States Power	12	June	1,468,876	1,416,596	....	....
New York State Electric & Gas	12	June	7,269,676	5,688,847	2.30(e)	2.15(e)
Niagara Mohawk Power, consolidated	12	June	23,563,478	18,987,030	2.00(f)	1.84(f)
Portland General Electric	12	June	3,601,747	3,380,939	2.74(a)	2.71(g)
San Diego Gs & Electric	12	May	4,111,814	3,489,228	....	....
Southern Co, consolidated	12	June	19,268,479	16,089,585	1.19(h)	.98(h)
Virginia Electric & Power	12	June	11,003,766	10,131,837	1.80(i)	1.80(i)

Notes—(a) Based on average shares outstanding during the period; (b) Based on 558,151 shares in 1952 and 399,161 in 1951; (c) Including tax reduction due to amortization of emergency facilities; (e) Based on 2,096,950 shares in 1952 and 2,179,064 shares in 1951; (f) Based on 9,427,329 shares in 1952 and 7,490,422 shares in 1951; (g) Based on 1,250,000 shares; (h) Based on 16,172,720 shares in 1952 and 16,306,494 shares in 1951; and (i) Based on average shares outstanding during the period, but before giving effect to extraordinary reduction in federal income tax.

FINANCING

Company and Description	Amount of Offering ($000)	Offering Price	Yield to Public
WEEK OF JULY 24-30			
Preferred Stock			
Pennsylvania Power & Light—100,000 sh 4.40% $100 par	$10,000	$100.00	4.40%
WEEK OF JULY 31-AUGUST 6			
Bonds			
Pennsylvania Electric—1st mtg 1982	$9,500	.....	.....
Seattle, Wash., municipal light and revenue 1970-1987	25,000	.....	.....
Preferred Stock			
Pennsylvania Electric—45,000 sh $100 par	$4,500	.....	.....
SCHEDULED FOR AUGUST TO DECEMBER			
Bonds			**Bid date**
Arkansas Power & Light—1st mtg 1982	$15,000	.....	Sept. 9
Appalachian Electric Power—1st mtg 1982	17,000	.....	Sept. 23
Carolina Power & Light—1st mtg 1982	20,000	.....	Oct. 20
New Orleans Public Service—1st mtg 1982	6,000	.....	Dec. 15
Notes			
Appalachian Electric Power—serial 1956-1957	$6,000	.....	Sept. 23
Common Stock			
Mountain States Power—200,000 sh	.....	.....	Aug. 11
UNSCHEDULED AND UNDER CONSIDERATION			
Bonds			
Washington Water Power—1st mtg 1982	$30,000	.....	.....
Virginia Electric & Power—1st mtg 1982	20,000	.....	.....
California Oregon Power—1st mtg 1982	7,000	.....	.....
Mississippi Power & Light—1st mtg 1982	8,000	.....	.....
Utah Power & Light—1st mtg 1982	10,000	.....	.....
New Jersey Power & Light—1st mtg 1982	3,200	.....	.....
Preferred Stock			
Cleveland Electric Illuminating—100,000 sh $100 par	$10,000	.....	.....
New Jersey Power & Light—10,000 sh $100 par	1,000	.....	.....
Common Stock			
California Electric Power—354,610 sh	.....	.....	.....
California Oregon Power—250,000 sh	.....	.....	.....
Utah Power & Light—150,000 sh	.....	.....	.....

FINANCIAL BRIEFS

Electric Bond & Share Co has notified the SEC it is planning to sell through the New York Stock Exchange prior to Jan. 1, 1953, the remainder of its holdings of Southern Co common stock, totaling 171,053 shares . . . **Kentucky Utilities Co** has petitioned Paris City Commission to renew its franchise, which expires in 1954.

Stockholder Subscriptions — Florida Power Corp stockholders took 276,762 shares of common stock of 309,360 shares offered on 1-for-5 basis at $20 a share; balance of 32,598 shares were sold at $20.875 a share by Kidder, Peabody & Co and Merrill Lynch, Pierce, Fenner & Beane, managing underwriters.

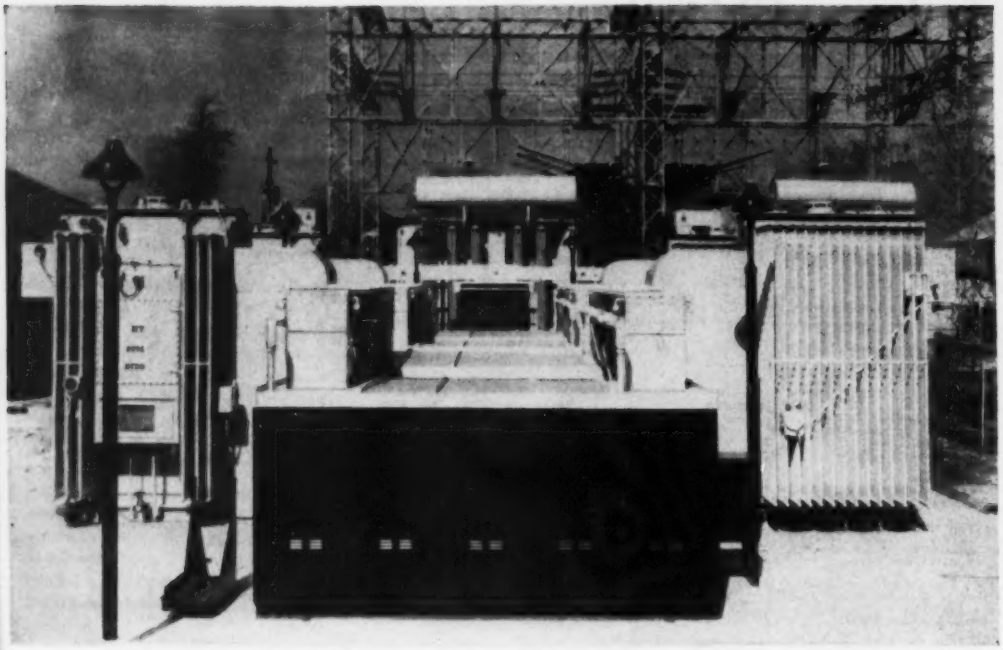
To avoid duplication and unnecessary costs, Missouri Public Service Commission has authorized the exchange of 35 miles of lines owned by Union Electric Co of Missouri for 40 miles of line owned by Kirkwood municipal system.

Plan for distribution of Washington Water Power Co common stock to American Power & Light Co stockholders on a share-for-share basis has been approved by Portland, Maine, Federal Judge John D. Clifford, Jr. Distribution will be made Aug. 21 to stockholders of record July 31. . . . Stevens County PUD, Colville, Wash., which recently acquired the $2 million Stevens County Electric Cooperative, has announced its intention of acquiring **Washington Water Power Co** properties in the northern part of the county. Acquisition of the company's properties are necessary if the PUD is to have an efficient operation, said Joe Garvey, chairman of the PUD commissioners. Since the company is not likely to sell, condemnation probably will be attempted.

Duke Power Co's $2 million-a-year rate boost in North Carolina will stand, since the Public Service Commission overruled Attorney General Harry McMullan's exceptions to it.

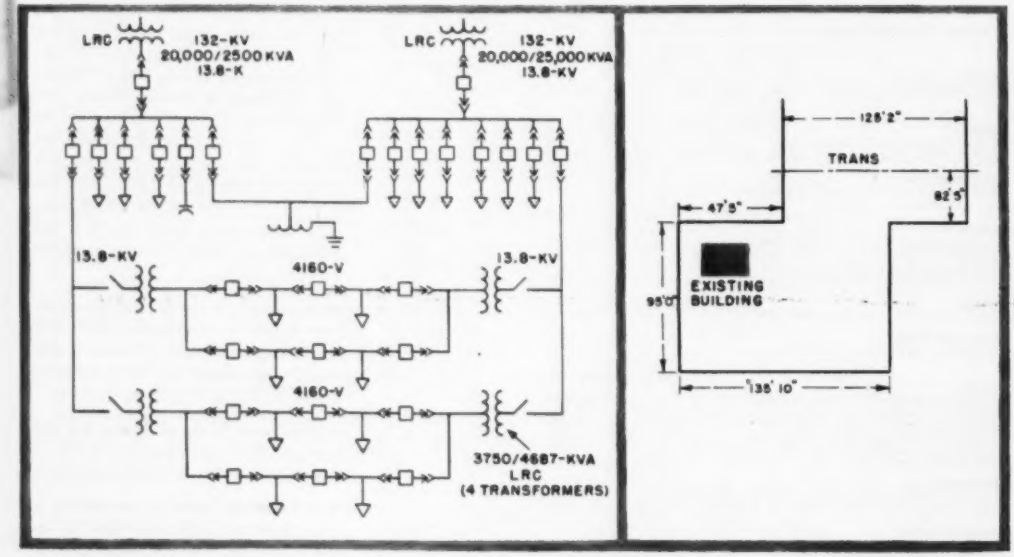
Pennsylvania Water & Power Co has received PUC approval to sell up to $12 million in 3½% unsecured notes.

East Palestine, Ohio, is considering a bond issue of about $200,000 to finance the purchase and installation of a new 5,000-kw unit at its plant.

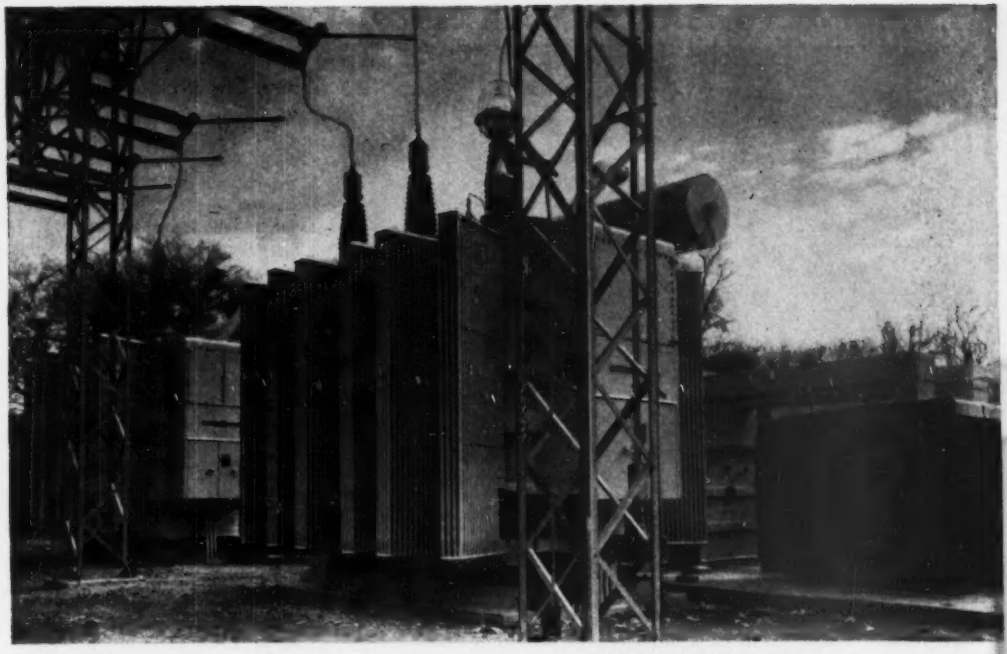


SAN ANTONIO'S 10TH STREET SUBSTATION, one of the largest built by General Electric, is rated at 40,000/50,000 kva, serves its area through nine outgoing 13,800-v feeder circuits in addition to eight 4160-v circuits fed from duplex units.

Utility just draws one-line diagram and



PLANS FOR UTILITY EXPANSION begin with these drawings. A one-line diagram, shown at left, and a simple plot-plan are all that G-E engineers needed to start work on big unit substation for San Antonio. Installation was completed in record time.



LOAD RATIO CONTROL in 25,000-kva transformers provides bus regulation for the 13,800-volt feeders, two of which feed double-duplex units. LRC in duplex units regulates each pair of 4160-v feeders. The substation supplies downtown San Antonio.

plot-plan to specify 50,000 kva substation

An example of fast, low-cost expansion with G-E unit substations.

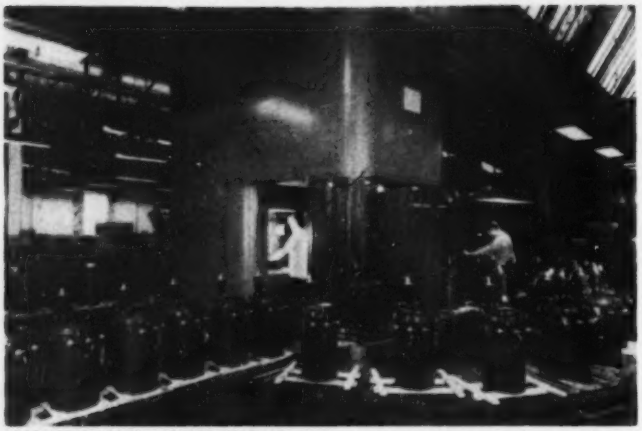
The 10th Street substation in San Antonio was planned to feed the city's rapidly expanding system. The utility found it had only to furnish General Electric a simple plot-plan and one-line diagram—similar to those shown at the left—to get the job started fast.

Working from these drawings, General Electric easily and quickly provided a large, double-duplex master unit substation, rated at 40,000/50,000 kva. This standardized equipment answered space requirements as well as the needs of the utility's fast-growing loads.

The City Public Service Board's experience with this G-E substation is further evidence of the trend to standardized equipment in utility expansion programs. G-E unit substations, with their great flexibility, find application in a variety of system arrangements. For full information, write for Bulletins GEA-3800 and GEA-4500. *General Electric Company, Schenectady 5, New York.* 321-101

BRACKENRIDGE SUBSTATION: One of 30 similar substations installed on San Antonio's system. G-E equipment simplifies expansion.

GENERAL ELECTRIC



PRODUCTION-LINE IMPULSE TESTING of distribution transformers is shown at General Electric's Pittsfield Works. Tests are made without any protective equipment on units

GE Starts Impulse Testing . . .

. . . of distribution transformers on a production-line basis. Equipment in operation at company's Pittsfield (Mass.) Works

General Electric Co has put in operation production-line impulse testing of distribution transformers at its Pittsfield (Mass.) Works.

According to the company's distribution transformer department, the testing equipment now in operation can test all single-phase distribution transformers 100 kva and below with high-voltage windings 18 kv and below, low-voltage windings 600 v and below.

Detects Smallest Faults . . . Previously considered impractical for a production line, impulse testing was made possible with the advent of the neutral-impedance method of fault detection and additional new methods adapted to low-voltage windings. These methods can be applied at high speed with the assurance that even the smallest faults will be detected.

Impulse testing, whereby transformer insulation is subjected to high voltage surges, is being used as a final check to assure the transformer will stand up under the most severe service conditions. The test, more severe than the long-established low-frequency testing procedures, is made without any protective equipment on the transformer.

Field operations under service conditions should be further improved through impulse testing, GE engineers said. Impulse testing substantially reduces the small percentage of transformer defects.

The test was originally perfected at General Electric's Holyoke (Mass.) Works.

Refined Copper Stocks Increase During June

Stocks of refined copper held in the United States by members of the Copper Institute, Inc, at the end of June totaled 70,856 tons, an increase of 15,505 tons above the 55,351 tons held on May 31.

During June deliveries to domestic fabricators dropped to 98,416 tons compared with deliveries of 105,362 in May. Refined production for the month of June decreased to 92,151 tons from 97,593.

Outside the United States refined stocks amounted to 192,629 tons on June 30, an increase of 15,857 tons over the 176,772 tons on May 31. June deliveries dropped to 88,738 tons from 91,547 in May and refined production for the month of June was 114,509 tons compared with May's 109,673.

Westinghouse Electric's Sales Set New Records

Westinghouse Electric Corp's sales in the first half of 1952 were $681,378,000 compared with $590,562,000 in the first half of 1951. The previous record for any half year was $650,239,000 in the second half of 1951.

Sales for the second quarter of this year were $357,558,000 compared with $300,155,000 in the second quarter of 1951. The previous record for any quarter was $339,759,000 in the final quarter of 1951.

Net income for the first half of 1952 was $31,507,000, equal to $1.95 per share on 15,664,239 shares of common stock outstanding. Net income for the first half of 1951 was $31,564,000, equal to $1.98 per share on 15,458,481 shares of common stock then outstanding.

For the second quarter of 1952, net income was $16,022,000, equal to 99¢ per share of common stock, compared with second quarter net income of $14,871,000 in 1951, equal to 93¢ per common share.

Federal income and excess profits taxes for the first six months of 1952 totaled $59,915,000, an increase of 33% over the federal tax bill of $44,964,000 in the first half of 1951. For the second quarter of 1952, federal income and excess profits taxes totaled $32,152,000, an increase of 75% over second quarter taxes of $18,296,000 in 1951.

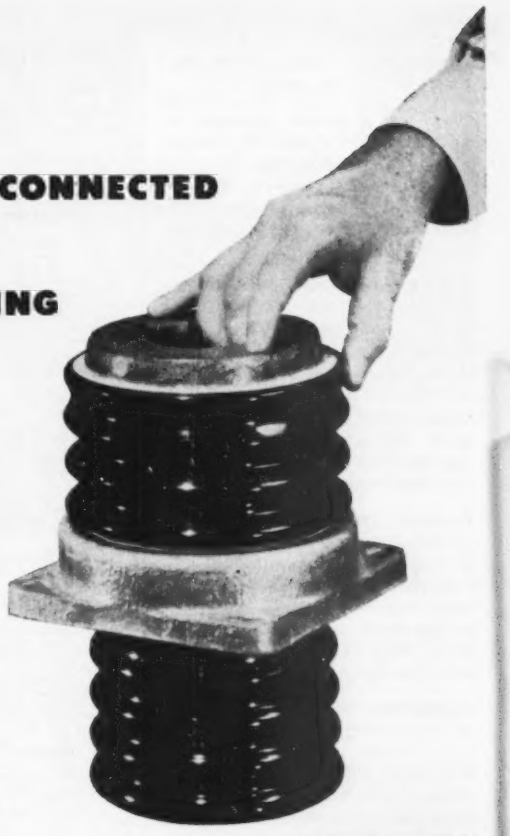
"Despite such record production and sales due in large measure to an increase in defense business—our backlog of unfilled orders is at a new high and is 33% above a year ago. This illustrates again the key position of the dynamic electrical manufacturing industry in our economy," Pres Gwilym A. Price reported.

MANUFACTURING BRIEFS

Washington State Supreme Court has taken under advisement the petition of General Electric Co to recover $1,250,000 paid to the state in business and occupation taxes in connection with the firm's operation of the Hanford Works for the Atomic Energy Commission. GE contends the Atomic Energy Act exempts the

THIS IS A BACK-CONNECTED

SWITCH BUSHING



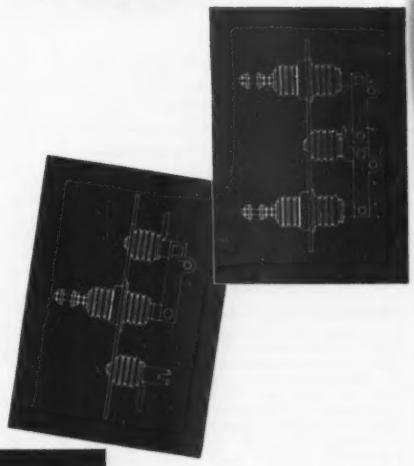
This is a Lapp *standard catalog item.* In fact, you'll find it on page 91 of Lapp Catalog No. Seven, listed as Number 14188. It is one of the complete series of insulators listed on that page which match precisely the Lapp standard line of Indoor Bus Supports which are shown on pages 83-86 of the same catalog. By *"matching"* we mean insulators which have corresponding electrical, mechanical and physical characteristics.

We emphasize the point because the two series are wholly interrelated—the portions of corresponding insulators above the flange match exactly in height and diameter—physical strengths are the same—both series possess identical electrical characteristics. They may be used interchangeably, where other design considerations determine the choice of indoor bus supports or back-connected bushings.

In specifying Lapp indoor bus supports and back-connected bushings, you gain more than the convenience and efficiency of this interchangeability. You have also the benefit of assurance of single responsibility for all qualities, characteristics and performance of the insulators involved. You have not only the extra margin of security of Lapp porcelain, but the guarantee and responsibility of Lapp for electrical, mechanical and physical performance.

Both Lapp indoor bus supports and Lapp back-connected switch bushings are available from your switch manufacturers.

Lapp Insulator Co., Inc., Le Roy, N. Y.



Lapp

company from payment of the taxes, but the state holds that only the federal government is exempt, not the contractor for the government.

Production of primary aluminum in the United States during May reached a new 1952 monthly high of 161,607,096 lb, the Aluminum Association has reported. May output was more than 5% above April production of 153,759,727 lb.

Allis-Chalmers Manufacturing Co has purchased the plant and remaining assets of Victor Electric Products, Inc, Cincinnati, Ohio, producer of small electric motors. The Cincinnati plant will become a part of A-C's Norwood works located in that area and will house the sales, engineering, and manufacturing facilities of A-C's Texrope Drive section, now in Milwaukee.

President Truman has signed a proclamation reimposing import duties on zinc. Duties were suspended last February under legislation which provided they be reimposed when the average market price of slab zinc fell below 18¢ a lb. The price dropped below that figure during June.

Westinghouse Electric Corp will build two high-power transformers for Tennessee Valley Authority's Colbert steam plant at Pride, Ala. The 220,000-kv amp units, scheduled for delivery in 1954, will be built at the company's Transformer Division at Sharon, Pa.

Link-Belt Co plans to purchase 105 acres of land near West Chicago, Ill., from Chicago & North Western Railway for possible future expansion of manufacturing facilities. No plans have been made for construction as yet.

SALES ASSIGNMENTS

COMPANY STAFFS

Minneapolis-Honeywell Regulator Co has made the following field assignments: Jack E. MacConville will handle the Southeast with headquarters at Atlanta; Alfred J. McCullough, Central Region, headquarters in Cleveland; Howard L. Marston, Northwest, headquarters in Minneapolis; Robert L. Mallory, Southwest, headquarters in Dallas; Robert B. Grant, Pacific and Mountain regions, headquarters in Los Angeles; and Lester W. Williams, Pacific Northwest, headquarters in Portland.

Reynolds Metals Co has named F. L. Sargent regional general manager of its South Central region sales office with headquarters at St. Louis. He has been industrial sales manager of the Eastern region.

NEW ELECTRICAL CONSTRUCTION

A weekly selection of U. S. electrical construction projects announced by private and government utility systems involving more than $70,000. Also listed are major industrial and construction jobs where electrical work is indicated or implied

UTILITIES

Proposed Construction

Fla., Fort Pierce—City light and power plant addns. Approx. $75,000. Robert & Co. Assoc., 96 Poplar St. N. W., Atlanta, Ga., engrs.

Georgia—Sawnee Electric Membership Corp., Cumming, 75 mi. rural distr. line, and sys. imprvs., Forsythe Co. $215,000.

Iowa—L. & O. Power Co-operative, Rock Rapids, Ia., 73 mi. 69 kv transmission line, Rock Rapids Co. $503,000.

Mich., Lapeer—State, A. N. Langius, dir., State Bldg. Dpt., Lansing, electric work incl. third sect. underground electrical distr., 2 transformer sub-stations, ducts, manhole, primary and secondary cables, E. R. Little Co., Inc., 1806 Kales Bldg., Detroit, engr.

Minnesota—Lyon - Lincoln Electric Co-operative, Tyler, 68 mi. rural distr. lines, 7 mi. transmission lines, sys. imprvs., Lincoln Co. $300,000.

Missouri—White River Valley Co-operative, Hollister, 444 mi. rural distr. lines, sys. imprvs., Taney Co. $1,034,000.

Missouri—Northwest Electric Power Co-operative, Cameron, sub-stations, Extended date, Henningston, Durham & Richardson, Standard Oil Bldg., Omaha, Neb., engrs.

Nebraska—Niobrara Valley Electric Membership Corp., O'Neill, 415.05 mi. rural distr. lines, in Knox, Holt and Garfield Counties. Plans deposit $10. Philip L. Burns, 630 Davenport Bank Bldg., Davenport, Ia., consult engr.

North Carolina—Lumbee River Electric Membership Corp., Red Springs, 100 mi. rural distr. lines, sys. imprvs., incl. 23 mi. new tie lines, NC 51L Hoke, $570,000.

O., Dayton—U. S. Eng., 830 W. Broadway, Louisville, Ky., 2 story rein.-con. concrete block radiological instrument test bldg. at Wright-Patterson Air Force Base.

O., East Palestine—City, Elmer Dishong, service dir. East Palestine, purchase and install 5,000 kw generator at electric power plant. $200,000.

Oklahoma—Indian Electric Co-operative, Cleveland, 68 mi. rural distr. lines, 24 mi. 69 kv transmission line and sys. imprvs., Pawnee Co. $675,000.

South Dakota—Moreau-Grand Electric Co-operative, Timber Lake, 479 mi. rural distr. lines, acquisition of distr. facilities and 35 mi. transmission lines, Dewey Co. $950,000. Scott Eng. Co., Watertown, consult. engr.

Tenn., Fayetteville—Town, Fayetteville, electric sys. imprvs. $140,000.

Tenn., Knoxville—Knoxville Utilities Bd., 626 S. Gay St., electric sys. imprvs., $1,250,000.

Tex., Amarillo—Plains Broadcasting Co., c/o Tom Kirtzer, mgr., 8 and Harrison Sts., plans by Robert E. Hucker, Johnson Bldg., television antennae and transmitter, 833 ft. tower req. 200 tons steel and transmitter bldg. $520,000.

Washington—Benton Rural Electric Assoc., Prosser, Mich., 268 mi. electric distr. line, 8 mi. transmission line and sys. imprvs., Benton Co. $1,500,000.

Wash., Centralia—City, City Hall, Yelmi hydro-electric plant addn. $1,500,000.

Low Bidders & Contracts Awarded

Ga., Fort Benning—White Electrical Constr. Co., 1325 6 Ave., Columbus, Ga., CA. $97,511 rehabilitation of overhead electric system, Inv. 52-211. Purch. & Contg. Office, Fort Benning, Ga.

South Dakota and Iowa—Lipsett, Inc., 100 Park Ave., New York, N. Y. CA $1,657,745, construct footings and erecting steel ,towers for 230-kilovolt transmission line which will carry Missouri River Basin Reclamation Proj. power from Fort Randall Dam, South Dakota, to Sioux City, Ia. Bureau Reclamation, Dpt. Interior Bldg. 53, Denver Federal Center, Denver, Colo. Bids June 25. CD 7/3.

Nebraska—Douglas Contractors, Keeline Bldg., Omaha, Neb., CA. $87,810, sub-station and rural distr. lines, Saunders Co. Butler County Rural Public Power Dist., David City, Neb. Bids June 6.

Nebr., Lincoln—Natkin & Co., 4001 Leavenworth St., Omaha, Neb., LB $117,600, rehabilitation of electrical and mechanical facilities, Group III bldgs., Lincoln Air Force Base, Inv. 52-145. U. S. Eng., 1709 Jackson St., Omaha, Neb. Bids June 30.

New York—Robertson Electric Co., Inc., 136 S. Elmwood Ave., Buffalo, N. Y., LB $84,111, est. $54,000, 1.63 mi. modern traffic control signal sys., Delaware Ave., City of Buffalo, P.A.C. 52-6, Erie Co. Bureau Contracts & Accounts, The Governor Alfred E. Smith State Office Bldg., Albany. Bids July 10.

N. C., Le Jeune—Cheney Electric Co., 1700 Hutchinson Ave., Charlotte, N. C., CA. $124,558, outside telephone facilities, Spec. 34098. P. Wks. Office, Camp Lejeune, N. C. Bids June 23.

Ohio—Collier Constr. Co., Film Exchange Bldg., Cleveland, O., CA Est $150,000 transmission lines; Own Forces, sub-station, West Rd., Catawba Island. Ohio Edison Co., 47 N. Main St., Akron, O.

Tenn., Tullahoma—Pittsburgh-Des Moines Steel Co., Neville Island, P.O. Pittsburgh, Pa., CA. $2,448,780, 16x16 ft. transonic flexible nozzle for propulsion wind tunnel, Arnold Engineering Development Center. U. S. Eng., Tullahoma, Tenn.

Texas—Wes-Tex Telephone Co-operative, Stanton, Tex., Purchase and lfire. $90,000. Approx. 150 rural pole telephone line, Martin Co., Texas.

Man., Winnipeg—Malcolm Constr. Co. Ltd., 554 Pembina Hy., Winnipeg, Man: CA $500,000, est. $870,000, conversion Piggot Bldg. into television and radio studios, Canadian Broadcasting Corp., 1425 Dorchester St. W. Montreal, Que. Bids July 2, awarded July 14.

INDUSTRIAL, COMMERCIAL & PUBLIC BUILDINGS

Proposed Construction

Ia., Bettendorf—Aluminum Co. of America, Gulf Bldg., Pittsburgh, Pa., factory, $5,500,000.

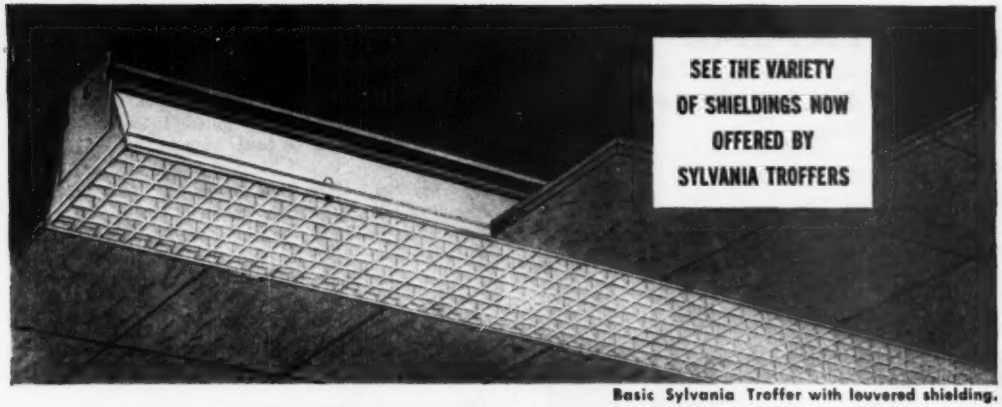
Mich., Romulus—Ford Motor Co., 3000 Schaefer St., Dearborn, 970,000 sq. ft. 2 factory units, 2 story, 185,000 sq. ft. office, on 157 acres land, $25,000,000. Albert Kahn Associated Architects & Engineers, Inc., 345 New Center Bldg., Detroit, engr. and archt.

N. J., Paterson—Lio Arms Realty Corp., c/o Peter H. Holley, archt, 195 Van Houten St., 7 story office and 13 story parking garage, on site bounded by Market St., Ward St. and Railroad Ave. $10,000,000.

Tex., Freeport—Dow Chemical Co., Freeport, ethylene plant. $6,675,000.

O., Fairview Park—Westgate, Inc., 1010 Euclid Bldg., Cleveland, Zone 14, plans by Raymond Loewy & Assoc., 488 Madison Ave., New York, N. Y., 40-unit masonry shopping center at Center Ridge Rd. and W. 210 St. on 66-acre site, $8,000,000. Dominic Visconsi, c/o owner, engr.

O., Parma—Veterans Admin., Vermont Ave. between H and I Sts., N. W., Wash. 25, D. C., 1,000-bed neuropsychiatric hospital adjoining present Crille Hospital, on 178-acre site near York, Pleasant Valley Rds. and Parma Heights Blvd. $21,000,000.



Basic Sylvania Troffer with louvered shielding.

NEW FLEXIBILITY AND LIGHTING EFFICIENCY WITH *NEW SYLVANIA TROFFERS!*

Sylvania's new line of recessed troffers has been designed around a basic unit to provide the last word in *flexibility*.

These troffers may be installed separately or in continuous rows . . . to meet practically any intensity requirements, length or row, ceiling construction, or architectural style.

Sylvania troffers are finished in hard-baked Miracoat enamel on Bonderite treated steel. Available with either standard or instant start ballasts.

New Troffer Spot Lights, too

New Sylvania spots and corner boxes are also available to accent ceiling lighting patterns. These spots, readily placed at strategic locations, harmonize perfectly with adjacent troffer shieldings.

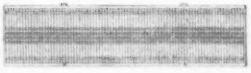
Fully guaranteed

All Sylvania troffers are covered by the *broadest guarantee in the industry*. This includes lamps (when Sylvania lamps are initially installed), ballasts, starters, and wiring for a period of an entire year. For detailed information about this new troffer line, be sure to mail the coupon NOW!

45° x 45° Louvers . . . for classrooms, offices, and many types of stores. This shielding available with open or closed ends.

Albolite . . . provides attractive diffused lighting for scores of applications. Comes in both open- and closed-end frames.

Twinlite . . . another interesting diffused lighting shielding, available with open or closed ends. Ideal for reception rooms, hotel lobbies, and display areas.



Curved Lens . . . available with closed frames only. Provides an extremely attractive light source where less contrast is desired.

Plastic . . . comes with closed frames only. Sturdy, extra lightweight shielding for soft, diffused recessed troffer lighting.

QUALIFIED LIGHTING CONTRACTOR SYLVANIA SALES SERVICE

Urge your Electrical Contractor friends to display this emblem that directs prospects to their doors.

FLUORESCENT TUBES, FIXTURES, SIGN TUBING, WIRING DEVICES; LIGHT BULBS; RADIO TUBES; TELEVISION PICTURE TUBES; ELECTRONIC PRODUCTS; ELECTRONIC TEST EQUIPMENT; PHOTOLAMPS; TELEVISION SETS

SYLVANIA

Sylvania Electric Products Inc.,
Dept. L-3108, 1740 Broadway,
New York 19, N. Y.

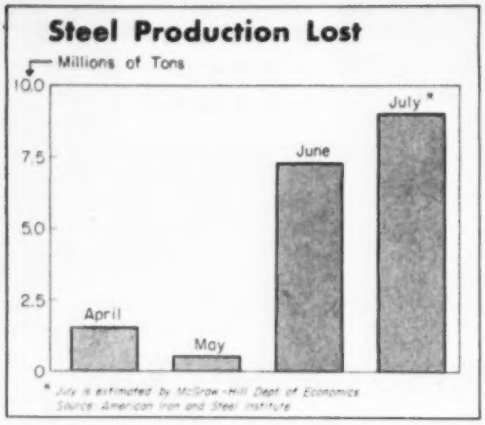
Please send me illustrated folder describing the new line of Sylvania Recessed Troffers.

*Name*_____

*Street*_____

*City*_____ *Zone*____ *State*_____

ELECTRICAL BUSINESS OUTLOOK



Strike Over; Steel Scarce

Lost production will affect consumer goods industries including electrical appliances

The steel strike's over. But its effect—a steel shortage—is going to be with us for months to come. The steel lost during the strike (chart) is steel lost for the production of hard goods between now and Christmas.

In particular, it's steel lost to consumer goods industries which won't have priority as defense and essential capital goods gobble up most of the first steel flow. Electric appliance makers, for example, will have a hard time producing as much as they did in the first half of this year.

Will the Production Slow-down Mean Lost Sales? . . . The key factor—and the factor that's hard to predict—is appliance demand. If it's soggy—as in late 1951—production limits won't matter much. But another big upswing would really put demand above supply. And it could easily happen in the case of some appliances.

Many consumers are very well heeled with cash. Credit controls are off. And as the plants making consumer goods shut down for lack of steel, it's not so hard to envisage people raiding the stores in fear of shortages or higher prices to come.

At least, there's likely to be some upswing in retail appliance sales. They've looked better for the last couple of months. All the signs—rising income, easier credit, big promotion campaigns—point to a further rise. The question is "How Much?" Just some rise or a buying rush?

You can get some help in answering this question from a survey run in June by the University of Michigan—a recheck on the annual survey of consumer buying plans which Michigan does each year for the Federal Reserve Board.

The survey shows that one out of three consumers think this is a good time to buy durable goods; whereas last June only one out of four thought so. It looks as though appliance sales should be better than in late 1951.

Some Say Not a Good Time to Buy . . . However, there are still slightly more people who think now is a bad time to buy than think now is a good time. That doesn't sound like a buyers' rush. A lot of people said prices were still too high, although the number has declined sharply since last year.

Here are some of the reasons why people thought now is a good time to buy:

1. Prices won't come down.
2. They can afford to buy now.
3. Credit is easier. (This was less important.)

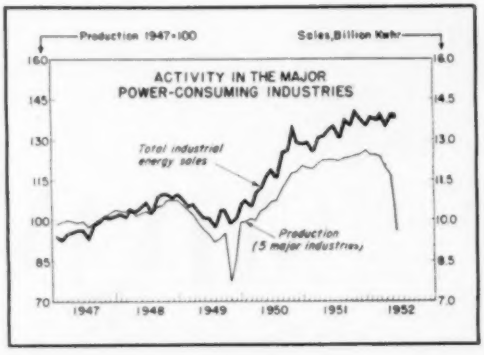
Only one-fourth of those interviewed expected price increases for household goods, although few expected declines. The majority expected prices to be stable for the rest of '52.

This survey was taken before the steel strike hit consumer goods production. Chances are that since the survey people have begun to wonder about the steel shortage. Their thinking may change in these ways:

1. More people will be more sure that prices won't come down.
2. Some people will expect prices to go up.
3. Some people will be afraid of shortages. Very few were at the time of the Michigan survey.

Chances are this feeling won't crystallize very fast. And chances are there won't be another buying rush like after Korea. After all, there are enough electric appliances in inventory to satisfy demand for some time, and it's hard to discount the generally cautious feeling shown by the survey.

It's clear though that appliance sales will be strong enough to make production the number one problem now. And it may be a real headache.



Copper and **Aluminum** insulated conductors

ACSR transmission and distribution

Copper and **Aluminum** line wire and service cables

Copper, **Aluminum** and **Copperweld*** bare and weatherproof

first in electrical conductors

ANACONDA®

wire and cable

*Trademark 58471

ANACONDA WIRE & CABLE COMPANY, 25 BROADWAY, NEW YORK 4, NEW YORK

5/8% STEP
VOLTAGE REGULATORS

FIELD TESTED

for Durability!

IN 1944 THESE JFR distribution regulators were installed on a Wisconsin distribution feeder to begin years of tests that proved the value of small regulators.

Eight Years' Operation Prove JFR Distribution Regulator Advantages

FIELD-PROVED voltage regulation for every feeder is available with Allis-Chalmers 5/8% step JFR distribution regulators based on the same principle originally introduced in 1933. Before these regulators were added to the A-C line in 1949, their reliability and accuracy were thoroughly tested and proved in five years of operation on a Wisconsin feeder.

These tests proved that all the advantages of Allis-Chalmers 5/8% step voltage regulation can be brought to distribution feeders economically. Now you can increase revenues on every feeder and improve customer goodwill at the same time!

The low price tag on the Allis-Chalmers distribution regulator plus its low maintenance requirements makes regulation possible where it could never be afforded before. Check these operating features: ± 1 volt band, 20% range, 32 small 5/8% steps, easy control adjustment, long life contacts, unit construction.

Get the complete story. Call your nearest Allis-Chalmers district office or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-3660

RATINGS AVAILABLE

7620 VOLTS —	15-50-100 AMPS
5000 VOLTS —	50-100 AMPS
2500 VOLTS —	100-200 AMPS

ALLIS-CHALMERS

A-C ALLIS-CHALMERS

Originators of 5/8% Step Regulation